



TAMPEREEN TEKNILLINEN YLIOPISTO
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**THE EFFECT OF ACQUISITIONS AND TENDER OFFERS IN
SHAREHOLDER VALUE: EVIDENCE FROM PUBLICLY LISTED
NORDIC COMPANIES**

Master of Science Thesis

Examiner: Prof. Juho Kanninen
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ABSTRACT

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Economies across the Nordics have experienced sluggish growth after the financial crisis and with plenty of cheap financing available, managers seek growth from mergers and acquisitions. Existing literature on mergers and acquisitions is abundant, however, the Nordic market has not been studied to the same extent. This study addresses the question whether mergers and acquisitions create value for shareholders and furthermore aims to shed light on how transaction and company specific factors contribute to that value.

The study uses data of 144 acquisition events that took place between 2005 and 2010 with acquirers listed in Copenhagen, Helsinki and Stockholm stock exchanges. The impact of the events was measured with event study methodology in a three day event window, 120 day estimation window and 5 minute timestep interval. Standardized cumulative abnormal returns are used as a proxy for value creation with a premise that investors' are able to capture the long-term benefits of the acquisition and furthermore reflect it to the price of the underlying stock.

The study finds that the sample acquisitions create standardized cumulative abnormal returns of 0.21% on an aggregate level with a strong reaction during the first 15 minutes after the acquisition announcement. Furthermore, our cross-sectional analysis indicated that transactions that used hybrid financing as consideration create greater returns compared to cash or stock financed transactions. Moreover the study finds that cross-border acquisitions create less value compared to non-cross border acquisitions. In addition target and offer type did not provide statistically significant impact on shareholder value.

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Pohjoismaiset taloudet ovat kärsineet matalasta talouskasvusta finanssikriisin jälkeisessä maailmassa. Tästä johtuen yritysten orgaaninen kasvu on ollut heikkoa ja siksi ne turvautuvat enenevässä määrin yrityskauppoihin tukeutuen saatavilla olevaan halpaan rahoitukseen. Maailmanlaajuisesti yrityskaupat ovat kattavasti tutkittu aihe, kuitenkin pohjoismaissa lisätutkimukselle on tilaa. Tämä tutkimus käsittelee aihetta yleistasolla sekä porautuu yrityskauppojen ominaisuuksiin ja niiden vaikutukseen tarkemmin. Tutkimus pyrkii vastaamaan kysymyksiin tuottavatko yrityskaupat lisäarvoa osakkeenomistajilleen ja miten yrityksen ja yrityskaupan tarkemmat ominaisuudet vaikuttavat lisäarvon tuottamiseen.

Tutkimus pohjautuu vuodesta 2005 vuoteen 2010 ilmoitettuun 144 yrityskauppatiedotukseen kolmessa eri pohjoismaiden pörssissä, Suomessa, Ruotsissa ja Tanskassa. Yrityskauppojen vaikutusta mitattiin tapahtumatutkimuksella, jossa käytettiin kolmen päivän tapahtumaikkunaa, 120 päivän arviointi-ikkunaa ja viiden minuutin intervallia mitauksien välissä. Tutkimus käyttää standardoituja kumulatiivisia epänormaaleja tuottoja arvon luomisen mittaamiseen, sillä oletuksella, että sijoittajat pystyvät heijastamaan yrityskauppojen pitkän aikavälin hyödyt ja haitat osakkeen hintaan välittömästi kaupan-tapahtumisen jälkeen.

Tutkitut yrityskaupat tuottavat kokonaistasolla 0.21% standardoidun kumulatiivisen epänormaalin tuoton kolmen päivän tapahtumaikkunassa. Tutkimalla tuottoja tarkemmin huomaamme, että ensimmäisen viiden minuutin aikana osakkeen hinnassa on voimakas ylöspäin suuntautunut reaktio, jonka jälkeen kokonaistuotto laskee aina tapahtumaikkunan loppuun saakka. Tämän lisäksi poikkileikkausanalyysimme mukaan hybridi-rahoitus tuottaa parempia tuottoja verrattuna täysin käteisellä tai osakkeilla maksettuihin kauppahintoihin. Myös ulkomaille suuntautuvat yrityskaupat todettiin tuottavan huonompaa tuottoa kuin kotimaassa tapahtuvat yrityskaupat. Kohteen ja yrityskaupan tyyppiä tutkittaessa ei löydetty tilastollisesti merkitseviä tuloksia.

PREFACE

“The preface is the most important part of a book. Even reviewers read the a preface”

This quote is aimed at all my loved ones who will most probably end up reading only the abstract and the preface. However I would like to thank that same group of people for motivating me to finish this multi-year project.

“Get your facts first, then you can distort them as you please.”

A quote by Mark Twain summarizes how many things in this world work, however this thesis had a total opposite aim. Objectivity is not always easy, however, university and especially the examiner of this thesis, prof. Juho Kanninen, have given me tools to succeed in this goal.

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1 INTRODUCTION

This chapter introduces the reader to the subject and gives background on the study. The research questions, methodology and the structure of the thesis will also be briefly covered in this chapter. A review of existing studies on the respective subject is also presented in the last subchapter.

1.1 Background

With sluggish organic growth in Nordic economies, companies are seeking growth from mergers and acquisitions (M&A). According to Thomson Reuters (2014) companies hold \$7.5 trillion cash at hand globally of which a large amount will likely be disposed in merger and acquisition transactions.

Theoretical and empirical evidence suggest that the activity in the field of mergers and acquisitions fluctuates in waves; when the stock markets are booming more acquisitions occur opposed to bear market conditions. According to Mergermarket (2013) the global M&A market peaked in 2007 and after the financial crisis, deals have been scarce with some rebound in the past few years. Going in to a possible M&A revival a question arises: do acquisitions create value, and if so, what kinds of deals generate largest returns? This paper aims to contribute to the subject by examining how acquisitions and tender offers affect the returns of a stock after a M&A deal, i.e. shareholder value, using the Nordic M&A market as a reference point.

Merger and acquisitions deals are driven by the expected future cash flow of the target i.e. the returns on the acquired company or asset. Acquirers have distinct motives to pursue a M&A deal, such as synergy benefits or entering a new market with the ultimate main rationale behind most of the motives is to increase shareholder value. However acquisitions have their challenges, such as the managements willingness to increase its' prestige or cash in on their stock options. The actual returns generated by an M&A transaction can be evaluated with abnormal returns, which this study also uses as a proxy for value generation, to get a sense of the actual return M&A deals generate.

1.2 Research question

The underlying subject of this study has been examined broadly by academics and various studies exist with several approaches, varying from short time frame to long time frame studies as well as acquirer to target perspective. However the Nordic M&A mar-

ket has not been in the focus of such studies and only a few studies exist covering the respective market. Thus the focus of this thesis is on mergers and acquisitions that occurred in Finland, Sweden and Denmark with several different variables. Additionally very few studies have been conducted with a five minute time step interval, enabling us to observe the immediate reaction of the investors.

The study examines how M&A transactions have created wealth in general as well as immerses in more detailed variables affecting wealth creation. The goal of this thesis is two-fold:

- To examine if M&A transactions create or destroy value and if so, how much. Value creation is defined as abnormal returns during event window, which are examined by applying event study methodology to capture the returns.
- To examine the contribution of acquisition event specific factors to value creation in M&A transactions.

Answering these two questions will enable us to examine what type of acquisitions benefit shareholders most and which acquisitions should not be carried out as well as give us the reference point to discuss why some type of acquisitions create more value opposed to other.

1.3 Research methodology

The choice of research method is intuitive since the data used is mainly in quantitative form; stock data is used to calculate the abnormal returns. Consequently a statistical research method, such as an event study, suits the purpose of this thesis adequately. Zollo and Meier (2008) reviewed 87 studies on M&A performance and they find that 41% of these studies used event study methodology in short-term studies, which gives confidence to our chosen methodology. Additionally MacKinlay (1997) suggest that event-studies are most useful in corporate finance context due to direct measure of shareholder value.

The empirical nature of the study that aims to support or reject a hypothesis, suggests that a nomothetic approach suits the means of this study. In a nomothetic study a large sample of data is studied and based on the results, generalizations are made to support or reject the hypotheses.

The research advances in an order where content is analyzed first, followed by the event study and statistical analysis. The content analysis comprises of collecting the merger and acquisition events and categorizing them into suitable categories. In this study the content consist of stock exchange releases of mergers and acquisitions that have occurred in the NASDAQ OMXH Nordic stock exchange. The event study calculates the

abnormal returns of the studied securities in cases of an unanticipated event (the M&A event), using the time, date and ISIN-code of the studied security as variables and statistical analysis to compare and validate the results.

Event studies have also received criticism *inter alia* from Krishnakumar and Sethi (2012) who note that event studies require efficient markets, which is often not the case in mergers and acquisitions transactions where the deal information is often leaked to certain parties before official announcement. Furthermore event studies do not take actual firm performance into account, but rather measure only investor reactions.

1.4 Key concepts

The definition of Mergers & Acquisitions is interpreted according to the author and context. In this thesis we use the following definitions: An acquisition is a transaction in which the bidding company acquires some or all of the target company's share capital. If the bidder acquires a majority of the target's shares, the control of the target company transfers to the acquirer. In a minority transaction the target is also subject to the acquirers influence.

Mergers are transactions in which one of the companies is merged to the other firm. In other word one of the companies ceases to exist after the deal. Mergers and acquisitions can be pursued with several approaches. The target can be absorbed to the existing company and the previous legal entity is discontinued. The target can also act under its previous legal entity and the operations are integrated to the acquirers operations. In some cases a new special purpose vehicle (SPV) is established and all of the share capital or assets of the target firm are transferred to the respective SPV. SPV's can be used as a way to enter a regulated market e.g. China. For example when the technology company Alibaba wanted to list itself in a stock exchange located in the United States, it had to establish a holding company that owns all of Alibaba's share capital. Investors could then own shares in the respective holding company making them indirect shareholders in Alibaba. Such an arrangement was necessary due to Chinese market regulation.

SPV's are used mostly by private equity investors due to the nature of their business. They hold multiple companies form several industries with various financing structures and consequently it is rational to establish a new company to manage the acquired company. Certain corporate restructurings are sometimes considered as a part of the M&A field; however this thesis concentrates in the aforementioned concepts, and excludes corporate restructurings.

1.4.1 Takeovers

Takeovers are described as an event that is characterized by the bidding company to acquire a controlling stake of the target company. Takeovers can be categorized as friendly or hostile.

A Friendly bid is an offer by the bidding company in which the bid is approved by the targets' management and the bid is carried out with cooperation between the two parties involved. The process of a friendly bid is usually carried out in the following order: First the bidding company approaches the targets board of directors, who evaluate the sufficiency of the offer. If the offer is considered to be in the best interest of the targets shareholders, the bid will be extended to the shareholders and either recommended or disapproved by the board of directors. An example of a friendly bid is Microsoft's offer of Nokias Device and Service division in 2013, which was completed in 2014.

A Hostile bid or Unsolicited bid is characterized by its' straightforward nature. In such an offer the acquirer approaches the shareholders of the target company directly without the involvement of the targets management. In such cases the targets management might conduct some counteractions such as divesting a part of the company or becoming the bidder. Counteractions to hostile bids are discussed later on in this thesis. An example of a hostile bid is Weir's bid on Metso's mining divisions in which the shareholders were contacted directly before discussing the offer with the board.

The distinction between a friendly and a hostile bid is rather important since in a hostile bid the bidder does not have as much information on the target as in a friendly bid, due to the lack of cooperation and information sharing with the management of the target. This in turn might affect the underlying bid price i.e. the returns for both parties involved.

1.4.2 Buy-outs

Buy-outs are usually conducted by a group of investors or a private equity company. The definition of a buyout is determined by the group of investors acquiring the company. Buyouts usually involve using a substantial amount of debt, that consists of different debt vehicles such as senior notes and mezzanine debt. Subsequently the equity portion of the deal is usually rather small. According to existing literature (Sudarsanam 2003) the following types of buyouts can be considered most common.

The leveraged buyout is an acquisition of an asset or a company financed mostly with cash. As mentioned afore the financing consists of various debt instruments and a small portion of equity, usually raised from private investors, hence the companies managing the funds are called private equity firms. Leverage buyouts have several benefits to support them such as leverage, tax benefits, usage of various financial instruments and

aligning the firm strategically for a better performance. (Sudarsanam 2003, pp. 268 - 271)

The management buyout (MBO) is a type of leverage buyout where the target company's incumbent management takes the initiative usually with the help of a private equity company. A management buyout can be a defense mechanism against hostile bids from other acquirers as in the LBO of RJR Nabisco, in which RJR's management of the time competed against a bid from a private equity firm KKR.

In a management buy-in (MBI) the target company's management will be replaced with a new management by the LBO-sponsor, for the current managers might not be competent or ineffective. A combination of MBO and MBI can be implemented resulting into a situation where the new management is a combination of old and new management. This kind of a buyout is called buy-in-management-buyout (BIMBO).

Buyouts differ from acquisitions with a distinguished holding period and exit strategies. Opposed to industrial, strategic acquisitions, buyouts often cash in on the deal after a distinct holding period. Usual avenues of exit are trade sale to a strategic buyer, taking the company public or selling the company to another private equity investor.

1.4.3 Tender offer

Tender offer is a solicitation by the acquirer to purchase a substantial amount of a targets' shares. The offer is at a fixed price and usually involves a premium over the prevailing market price. (SEC 2014) The difference between a tender offer and an acquisition is the communication of the bid. In an acquisition the targets' management is contacted and after the bid is either sponsored by the management or rejected where as in a tender offer the offer is communicated directly to stockholders. Thus tender offers are often used to carry out hostile takeovers. The aforementioned buy-outs are often conducted with tender offers as well. (Damoradan 2005)

1.5 A review of existing research

Mergers and acquisitions (M&A) have been extensively studied since the 1970's dominated by the use of event studies. However the Nordic market has not been studied with the same breadth. Additionally the information acquired from the time period between 1970's and 1990's might not be as relevant since the M&A market has developed rapidly with globalization, advanced decision making and increased involvement of private equity.

Returns for target firms

Returns concerning the target of an acquisition are intuitively positive and usually a premium of 20% - 30% is considered justifiable. The abundant existing literature suggests somewhat similar results. Jarrell and Poulsen (1989) find 20% positive returns in their study and Jensen and Ruback (1983) arrive at a similar result on their survey of 13 separate studies. Dodd and Ruback's (1977) research fortify the same magnitude of returns. However Lyyras (1999) study of Finnish M&A during 1985-1996 reports a 7% abnormal return for target company's shareholders, which is significantly lower compared to returns found in other studies. This in turn leads us to a question whether the returns in the Finnish and Nordic market follow different pattern compared to more studied markets such as the US market.

Returns for bidding firms

On the acquirer side the returns are intuitively lower since the bidder has to pay a premium to close the deal. Jarren and Poulsen (1989) find that the average abnormal return for the acquirer between years 1960-1985 is 1.14% and even negative in the 1980's. Dodd and Ruback (1977) find negative returns on a five year period after the announcement. This result must be considered with caution since it uses a longer event window than this thesis and hence is not fully comparable. Also in such a long event window other announcement and confounding events influence the returns, which in turn denote that the credibility of the result must be disputed. In contrast Rau and Vermelen (1998) find that in a three year event window yields a return of 8 percent. This is similar with a study conducted with a Finnish sample by Karppinen (2001) who finds that tender offers yield a positive 5.4 percent positive abnormal return for the acquirer. A recent study of Finnish M&A by Hänninen (2014) suggests a similar pattern of positive cumulative abnormal returns for such transactions. Additionally positive or zero effects have been found by Eckbo and Thorburn (2000), Macqueira et al (1998), Schwert (2000), Loderer and Martin (1990). Negative returns are found by Walker (2000), Mitchell and Stafford (2000), Sirowe (1997) and Healy et al. (1992).

Financing decision

Carleton et al. (1983) argue that the financing decision of an acquisition, i.e. is the deal consideration financed with cash or stock, is essential when distinguishing the characteristics of a deal. Financing decisions in acquisitions have been broadly studied and present controversial findings. For example Eckbo et al. (1990, 2000) suggests that bidder gains are greatest when executing acquisitions with stock deal or a deal with combination of stock and cash. However Travlos (1987) and Moeller et al. (2004) present evidence that bidder returns are higher in cash offers compared to a hybrid financing or an all-stock deal. For the target Huang and Walking (1987), Eckbo and Langohr (1989) and Andrade et al. (2001) find that cash deals give better returns for the target, compared to stock deals.

These kind of controversies are often explained with tax benefits and information asymmetries as well as with a bigger premium in cash deals because of the “tax penalty”. Hansen, 1987; Fishman, 1989; Eckbo et al., 1990 have studied information asymmetry’s role in the choice of financing an acquisition. They conclude that abnormal returns consist of two components: signaling and synergy valuation. Eckbo (1990) states that mergers which are financed with cash, do not have the signaling effect, because the value of the target is easily visible and the acquirer does not have as big of a risk in overpaying. Delcours and Hunsader (2006) find evidence that in cash deals’ the most important determinant is the target industry. Bruner (2004) study suggests a similar pattern by observing the consolidations on different decades.

Cross-border returns

Comparing cross-border and domestic returns is relevant since the rationale for the acquisition might be different. Danbolt (1966) finds that target company’s shareholders gain 6 to 11 percentage points more in cross-border acquisitions compared to domestic M&A deals. Harris and Ravenscraft (1991) argue that the abnormal returns of cross-border mergers and domestic ones do not have significant difference in returns for the target. This suggests a different pattern from Danbolts study, which finds that cross-border M&A creates higher value compared to domestic deals. Georgen and Renneboog (2004) find that in Europe cross-border mergers yield a 9% return for the targets shareholders, but only 0.7% for the bidders. This is in contradiction with the findings of Danbolt. Kang (1993) suggests that cross-border acquisitions are expected to generate more wealth than domestic acquisitions due to the fact that multinational firms tend to have competitive advantage over local ones. In a study of emerging market cross-border acquisitions Aybar and Ficici (2009) argue that the returns on the day of the announcement are negative to the acquirer. The volatility of the results are most likely skewed since the timings of the studies are decades apart, but also because cross-border mergers entail more risk and thus the returns of such deals have greater variance.

Private firm acquisition returns

Fuller et al. (2002) find that bidder gains when buying a private firm but loses when acquiring a public one. They argue that illiquidity of private companies is one of the reasons for a discount and hence the cumulative abnormal returns for the acquirer in private firm acquisitions are correlated positively with the size of the target. Similar results are found by Chang (1998) who finds that when private firms are acquired with cash significant positive returns are expected. When the consideration is paid with stock the returns are lower, but positive. Hansen and Lott (1996) find a similar pattern with Fuller (2000) in which when the bidder is acquiring a private firm bidders experience 2 % higher returns than when acquiring a public one.

Private equity firm returns

Humphery-Jenner et al. (2012) find that deals in which the acquirer is involved with private equity, yield better abnormal returns than those which have no private equity involvement. They argue that this is due to the access to expertise in deal making as well as the previous experience in similar deals. Renneboog et al. (2007) have evidence from U.K. that the firms going private due to a purchase of a private equity player yield a return of 30%. The high premium might be a result of the expected value creation possibilities the private equity shops anticipate. High value creation potential enables private equity players to bid more and outmatch competing bids with a higher price.

A summary of the literature review is presented in table 1. As a generalization it can be concluded that most of the studies show positive returns in an event of a M&A transaction with variable magnitudes of returns. Especially an acquisition of a private firm appears to yield positive returns consistently, however the literature review has only a small sample of studies that have included private firm return examination.

Table 1. *Overview of the literature review (1/2).*

Author	Target		Year	Return
	Subject			
Jarrell & Poulsen	M&A general		1989	Positive
Jensen & Ruback	M&A general		1983	Positive
Dodd & Ruback	M&A general		1977	Positive
Lyyra	M&A general		1999	Positive
Huang & Walking	Financing decision		1987	Positive
Eckbo & Langhor	Financing decision		1989	Positive
Andrade et al.	Financing decision		2001	Positive
Delcours & Hunsader	Financing decision		2006	Positive
Bruner	Financing decision		2004	Positive
Danbolt	Cross-border		1966	Positive
Harris & Ravenscraft	Cross-border		1991	Positive
Georgen & Renneboog	Cross-border		2004	Positive
Humphery-Jenner et al.	Private Equity		2012	Positive
Renneboog et al.	Private Equity		2007	Positive

Table 1. *Overview of the literature review (2/2.)*

Author	Bidder		Year	Return
	Subject			
Jarrell & Poulsen	M&A general		1989	Negative
Dodd & Ruback	M&A general		1977	Negative
Rau & Vermelen	M&A general		1998	Positive
Karppinen	M&A general		2001	Positive
Hänninen	M&A general		2014	Positive
Eckbo & Thorburn	M&A general		2000	Positive
Macquiera et al.	M&A general		1998	Positive
Schwert	M&A general		2000	Positive
Loderer & Martin	M&A general		1990	Positive
Walker	M&A general		2000	Negative
Mitchell & Stafford	M&A general		2000	Negative
Sirowe	M&A general		1997	Negative
Healy et al.	M&A general		1992	Negative
Eckbo et al.	Financing decision	1990, 2000		Negative
Travlos	Financing decision		1987	Positive
Moeller et al.	Financing decision		2004	Positive
Hansen	Financing decision		1987	
Fishman	Financing decision		1989	
Georgen & Renneboog	Cross-border		2004	Positive
Kang	Cross-border		1993	Positive
Aybar & Ficici	Cross-border		2009	Negative
Fuller	M&A general		2002	Negative
Fuller	Private		2002	Positive
Chang	Private		1998	Positive
Hansen & Lott	Private		1996	Positive
Fuller	Private		2000	Positive

1.6 Structure of the thesis

After the introduction the thesis covers relevant theoretical background of mergers and acquisitions, starting with the key concepts and continuing to the rationale and value drivers of M&A transactions. Additionally chapter 2 covers the possible challenges of mergers and acquisitions that might affect the outcome of a transaction as well as the financing decision that is of great relevance when examining the respective transactions. Illiquidity of an asset is also discussed due to its relevance in studying acquisitions of private firms. Information asymmetry and efficient markets theories are also discussed in the same chapter since they present the core to an event study and without understanding and accepting such postulates studying returns would be groundless.

Chapter 3 describes the characteristics of the Nordic merger and acquisition market for the purpose of one to be able to get a sense of the deal flow and value as well as to be able to compare the Nordic market to other markets of the world and furthermore benchmark the liquidity of the market, which supposedly affects returns. Chapter 3 also gives a general overview of the market cycle and helps us understand the prevailing market sentiment of the underlying markets. Studying market cycles is important to understand since in a bull market opportunistic acquisitions are more common. The hypotheses are underlined in chapter 4, whereas chapter 5 presents the characteristics of the data that is used in the underlying study and describes the event study methodology which is used in the empirical part of the thesis. Chapter 6 presents the results and discusses them, as well as reflects them to the existing literature and hypotheses. Finally the last chapter, chapter 7, concludes.

2 THEORETICAL BACKGROUND

This chapter introduces the basic concepts of mergers and acquisitions (M&A) and provides a basis for understanding the rationale as well as the sources of value in an M&A transaction. Later on the chapter discusses the financing decision of a transaction as well as describes the concepts of market efficiency and information asymmetry.

2.1 M&A Process

The M&A process varies across companies and type of M&A. Immonen (2008) determines the process into three steps; Planning phase, execution phase and adaption phase. Each phase contains several actions that are executed in order to see the acquisition through. Table 2 outlines the process main and sub-phases.

Table 2: *The M&A process phases (after Immonen 2008)*

M&A process phases		
Planning	Execution	Adaption
Determination of strategy	Negotiation process	Integration and after-care
Target screening	Due diligence	
Valuation of target and synergies	Executing the deal	
Planning the transaction structure		

The planning phase usually starts by identifying the strategic need for an acquisition and setting the objective for the acquisition. Strategy and objective setting is vital in order to conduct the screening phase effectively. Screening is done according to distinct criteria, which usually include target size, growth profile and industry as well as competitive position and geography. After identifying the financial position and future growth prospects, the potential synergies and implied valuation can be determined. (Immonen 2008)

The execution phase consists of negotiation, due diligence and execution of the deal. The negotiation phase includes agreeing on the term of the transaction, such as price, payment method and consideration details. Due diligence is usually done by a third party in order to warrant the terms of the acquisition and financial, tax and legal condition of the target. Due diligence also ensures the correct adjustments to the purchase price, such as net debt and working capital adjustments.

The integration phase initiates after the closing of the transaction. The integration phase is vital for the success of an acquisition for several factors influence a successful integration. Many of the most crucial determinants of a successful acquisition are tacit factors, including management, leadership and organizational culture (Waldman & Javidan, 2009). Gates & Very (2003) argue that in fact many acquisitions are unsuccessful and fail to show synergies due to an insufficient adaptation phase. The challenges of M&A are discussed more in detail later on in this thesis.

2.2 Rationale and value creation for acquisitions and tender offers

This chapter discusses why a company should pursue a merger or an acquisition. The motives for M&A transactions are abundant, but according to Ianotta (2010) and Bhidé (1993) synergy benefits are the most common reasons for such transactions. Tax benefits are also a commonly referred motive to conduct transactions. The recent evidence of U.S. firms executing cross-border acquisitions to gain tax benefits (e.g. Pfizer's bid on AstraZeneca) raises a question whether Nordic companies are in search of such benefits (Wall Street Journal 2014).

Another most important question when undertaking an acquisition or a merger is the sources of value that derives from the deal. The sources of value in an acquisition or a merger can be simply divided into revenue enhancing and cost reducing drivers. Revenue enhancing value is harder to perceive and calculate, but it still plays a great role especially in strategic acquisitions. Cost reduction usually is related to synergies that derive from consolidation of businesses. Trautwein (1990), Brouthers et al. (1998) and Walter & Barney (1990) have made distinct classification systems, but in this thesis value creation is classified in the aforementioned way.

Takeovers are said to have a disciplining effect on the management because takeovers remove managers who either pursue interests in their own benefit or use the company's resources inefficiently. Therefore it is argued that takeovers mitigate the agency problem that is discussed later on in this chapter. However takeover market comes with problems such as the free rider problem presented by Grossman & Hart (1980). The free rider problem suggests that shareholders can benefit in an event of an acquisition by holding on to their shares and letting other shareholders sell their shares at a lower price.

Moreover, because all shareholders have the incentive to hold on to their shares, no one will sell creating a deadlock.

The underlying assumption in this chapter is that acquisitions are done in order to increase shareholder value. This implies that the value of the target combined with the premium has to be smaller than the gained benefits of the acquisition. Miller and Modigliani (1958) argue that the value of a company is independent of its capital structure. Therefore in some academic studies it is assumed that restructuring the capital structure of a firm through an acquisition cannot create value in a takeover. However, when observing the actual market, capital structure can have effect in the value of companies. Hence the following hypotheses are considered as motivation for acquisitions.

2.2.1 Synergy benefits

The synergy benefits can be divided into two categories, operational synergies and financial synergies. These two categories can be divided into revenue enhancing and cost reducing synergies. To put it simple the equity value post-acquisition must be bigger than the combined equity values of the target and the acquirer:

$$E(C) > E(A) + E(T), \quad (1)$$

where $E(C)$ is the equity value of the post-acquisition company, $E(A)$ and $E(T)$ are the equity values of the acquirer and the target, respectively. According to formula 2, the value of the synergy benefits is

$$SYNERGY = E(C) - (E(A) + E(T)). \quad (2)$$

Operational synergies are synergies that allow companies to increase their cash flows or reduce costs with operational maneuvers. The operational synergy benefits are ample, but compared to financial synergies more uncertain and less measurable. Operational synergies include:

- Economies of scale that allow reduced costs in production due to consolidation of production and distribution network or combining the distribution network for wider reach. These kinds of synergies are most often foreseen in horizontal mergers such as an auto manufacturer acquires another auto manufacturer (Damodaran 2005).
- Greater pricing power due to higher market share, i.e. less competition. These kinds of synergies also appear most often in horizontal takeovers. The fallback on this approach can be regulatory power in an event of a monopoly or an oligopoly. (Damodaran 2005)

- Entering new product category or markets which could not be entered without an acquisition. Also other functional strengths that can be transferred after the acquisition can be accounted in this category.
- Greater revenue in result of cross-selling. A company can use its' reputed brand to leverage the products of the target firm as well as combine marketing efforts. (Sudarsanam 2003, p. 100-112). It must be noted that in practice investors view revenue synergies with great caution since revenue synergies are often hard to quantify and the realization of such synergies is uncertain compared to cost synergies.

Financial synergies are a result of either a higher cash flow or reduced cost of capital or both. In contrast to operating synergies, financial synergies can be measured more accurately and can be predicted in many cases. According to Damoradan (2005) they can be categorized in the following manner:

- Allocation of funds: A firm with excess cash can allocate its' cash reserves to a company with high return projects (and limited cash), creating a higher yield for the combined company. The higher yield derives from the projects that the high return firm could not have taken without the excess cash.
- Increased debt capacity: The takeover can make cash flows more predictable and stable, which result into higher debt capacity that allows the company to benefit from a greater tax shield, hence get a lower cost of capital.
- Tax benefits: Tax benefits can arrive through various avenues such as writing up targets' assets or using the net operating losses to shelter profits. Additionally tax benefits can be gained by acquiring a company abroad as aforementioned.
- Diversifying: A company can diversify its' cash flows which makes the company earnings less volatile. This synergy is mostly applicable in private firms since investors can diversify at a lower cost than the company itself. This can be done by investing in different type of assets or different industries.

Figure 1 demonstrates synergies and their connections to adding value. It is important to understand what avenues of value creation managers try to capture when pursuing a acquisition in order to understand the rationale for the acquisition and moreover the risks involved.

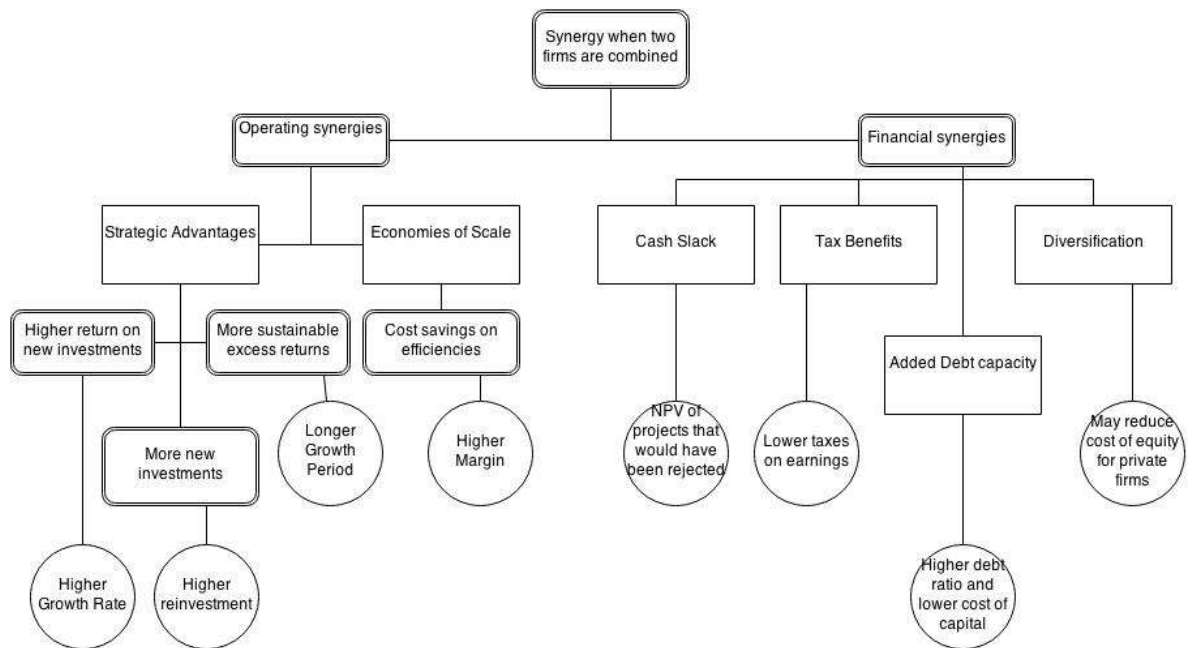


Figure 1. Operational and Financial Synergies. (After Damoradan 2005)

2.2.2 Managerial hubris

The term hubris refers to managerial overconfidence that manifests itself when managers of the bidding company overestimate their ability to create value out of an acquisition; hence the hubris hypothesis suggests that decision makers of bidding firms pay too much for their targets (Sudarsanam 2003, p. 57). The hubris hypothesis is a behavioral approach in which the management does not deliberately act against the best interest of the bidders' shareholder, but rather unintentionally takes actions that have negative or zero returns, in contrast to the management empire building and compensation schemes described in the next sub-chapter.

Roll (1986) argues that this exact phenomenon is the reason why many acquisitions fail to create value for the bidders shareholders. Roll (1986) also finds that the hypothesis of bidders paying an unnecessary high premium effects the acquisition, so that the value of the target firm increases, the value of the acquiring company decreases and the total effect in value change is slightly negative. The minor negative returns can be linked to the transaction costs in the acquisition. Hayward and Hambrick (1997) find evidence that supports Roll's hypothesis; they suggest that takeover premiums are positively correlated with the parameters for hubris and argue that bigger takeover premiums result in bigger shareholder losses. Hayward and Hambrick (1997) use recent organizational success, CEO's self-importance and media praise for the CEO as proxies for hubris.

2.2.3 Management empire building and compensation

The managerial perspective is related to agency theory in a controversial way; under this perspective acquisitions are considered as evidence of such problem. This theory is based on the notion that the managers of the acquiring company will lose or gain control in an event of an acquisition. Managers might lose control in an event of a merger and therefore might try to react in their own favor instead of the best interest of the shareholders. For example managers might rather execute mergers with cash to gain control or reject cash bids from other bidders to retain control in their company. The latter one is not in the best interest of the shareholders since as discussed in the literature review cash bids tend to yield larger cumulative abnormal returns for the target. (Sudarsanam 2003, s. 57-58)

The managerial perspective differs from the hubris hypothesis in the intentions of the managers; Managerial perspective implies that managers deliberately act in their best interest to maximize their own utility, whilst the hubris hypothesis suggests that managers act against the best interest of the shareholders unbeknownst. (Seth et al. 2000)

Two categories of self-maximizing managerial behavior associated with acquisitions can be recognized: diversification and empire building. Empire building reflects flawed managerial objectives by denoting that managers increase the scope and size of business that they control to the detriment of operational success, hence the value of the company. Hope and Thomas (2008) argue that the respective behavior is made possible by inadequate or insufficient financial disclosures and other monitoring schemes. In other words the lack of transparency can feed self-maximizing managerial behavior. According to Jansen (1986) the respective behavior can be mitigated by either paying dividends i.e. getting rid of excess cash or increasing leverage.

Moreover managers can diversify their firms cash flows, which leads to more stable earnings. (Seth et al. 2000) Diversification in general can be considered as managerial empire building since the rationale behind a single firm excessively diversifying is ill-conceived due to the efficient capital markets; Investors have the ability to diversify their investments on their own with a lower cost. Levy & Sarnat (1970) find that conglomerate mergers that are made solely to diversify cannot create value in a perfect market.

According to Amihud & Lev (1981) and Black (1989) another self-maximizing behavior pattern in conglomerate mergers is related with the employment risk of the manager. Managers employment and hence earnings are correlated with the risk of the firm, as a result risk averse managers attempt to mitigate their employment risk by undertaking M&A transactions.

Self-maximizing behavior has been empirically studied by Lewellen & Rosenfeld (1985) and Firth (1991) with similar outcomes. Lewellen & Rosenfeld (1985) find that there is a significant positive correlation between the abnormal returns of a M&A transaction and the personal equity stake in the company of the managers. This in turn implies that managers who do not hold a stake in the company act deliberately to gain influence with M&A. Firth (1991) found that even when shareholder wealth is destroyed in an M&A transaction executives gain rewards, which reinforces the motives for managerial empire building.

2.3 Valuation

The valuation aspect does not derive as much from the internal factors of a company rather as it does from the markets sentiment against the company. Undervaluation can be a substantial value creator and acquirers, especially private equity companies, can benefit from this phenomenon.

Undervaluation can stem from several factors such as the overall market sentiment, being a small part of a bigger conglomerate and as a result the valuation of the group drags the valuation of the part. Such discrepancies present an opportunity for value creation without any substantial maneuvers. To simulate the effect one can observe trading multiples: The acquirer is a large drug manufacturer trading with a multiple of 20.0x and the target is a small drug manufacturing division that is a part of a bigger conglomerate with a multiple of 10.0x. The deal was made with a multiple of 15.0x and after the deal the target would be absorbed to the large drug manufacturer and would trade with its multiple of somewhere around 20.0x depending on the stock market reaction. However as we have concluded from the literature review usually the reaction is slightly positive. It can be argued that value has been created by just transferring the ownership from one company to another.

The price at which a company is sold is not theoretical, but rather an agreement between two parties that are willing to trade an asset at an arm's length basis. The respective definition results in situation where the price of an asset can be sold at a significantly higher or lower price than the intrinsic value of the company and its future cash flows.

2.3.1 Illiquidity discount

Valuation practitioners commonly refer to illiquidity discount, when valuing assets. An illiquidity discount can be relevant when valuing a small or otherwise illiquid asset. Illiquid asset can be defined for the purpose of this discussion as an asset that bears cost in any way in an event of a sale. In some sense all asset are illiquid, with the difference being the continuum, in which some assets are more liquid than other.

The trading costs for an asset comprise of components such as brokerage cost, bid-ask spread, price impact or opportunity costs, or a combination of them. Brokerage cost, which is a cost paid to the broker for connecting the seller and buyer, is the most explicit of the costs that any investor pays, but it is usually a rather minor portion of the costs. In mergers and acquisitions this costs can be thought of as the fee for the M&A advisors. Smaller targets might have higher proportionate brokerage costs since advisors have minimum fees no matter what the actual purchase price is. (Damoradan 2010)

Bid-Ask spread denotes the spread between the price at which you can buy an asset (the dealer's ask price) and the price at which you can sell the same asset at the same point in time (the dealer's bid price). The bid ask spread is relevant when observing public takeovers in which the owners of the target are reluctant to sell at the same price as the bidder is willing to bid. The price impact that an investor can create by trading on an asset, pushing the price up when buying the asset and pushing it down while selling. There is the opportunity cost associated with waiting to trade. While being a patient trader may reduce the previous two components of trading cost, the waiting can cost profits both on trades that are made and in terms of trades that would have been profitable if made instantaneously but which became unprofitable as a result of the waiting. (Damoradan 2010)

Illiquidity is relevant to this study for several reasons. One of them being the notion, that illiquidity risk is systematic risk. In other words, the illiquidity increases when the market is down. This risk should be built into the discount rate and further the valuation and hence future returns. Empirical evidence exists of this phenomenon; assets that are less liquid have historically earned higher returns. (Damoradan 2010)

Illiquidity can be caused by other factors too such as market forces and regulation. A recent example of Kesko's acquisition of Suomen Lähikauppa Oy acts as evidence for such illiquidity; the asset could not have been sold to other market participants involved due to market share restrictions and private equity could not act as an acquirer due to scalability. The stock reaction for Kesko, the acquirer, at the announcement was over 6% positive.

2.4 Signaling

Roll (1986) suggests that when the acquirer places a bid on a target it might suggest that the unannounced cash flows could be higher. Thus the combination of the new information on earnings and an acquisition offset each other. Contrary withdrawing a bid might signal the opposite about the acquirer's future outlook. Another perspective for signaling is the payment method. If the company is paying for the acquisition with cash it might signal that the acquirers stock is undervalued and on the contrary if the payment is financed with stock it might be a signal of overvaluation. (Myers & Majluf 1984)

This fact is intuitive since when a company finances a deal with the stock of its own, it forfeits some of the potential profit that would result from a successful deal i.e. a soar in its' stock price. Also on the contrary if the company's stock price were to slide, the target would absorb a portion of the loss in value.

Grossman & Hart (1981) find that there are two types of signals from a miss valued company. The first one asserts that the target company has resources that are managed inefficiently by the incumbent management and thus if a potential bidder has information of such inefficiency it can allocate these resources more efficiently resulting in a higher valuation of the company. The other hypothesis suggests that the bidder discovers information, not available for other traders, that the target is undervalued on the stock market relative to its actual performance. Consequently the bidder can utilize this information to acquire the target on a relatively small premium leaving value to be realized for the other investors.

2.5 Financing decision

A deal can be financed with various payment methods such as equity linked derivatives, but in the limits of this thesis we consider three types. Cash offer, Stock offer and Hybrid financing. Cash offer consists of mainly cash (80%) stock offer consists mainly of stock (80%) and hybrid financing is a mixture of cash and stock (20%-80% cash). The means used to finance the deal is of great importance both for the acquirer and the target. Takeover regulation can be one reason, but beside it the reasons are abundant. A company's financing decision of a M&A deal can be dependent on the following factors:

- Accounting
- Availability of financing
- Tax considerations
- Bidder's liquidity
- Bidder's gearing
- Risk management
- Target's will

The accounting aspect derives from the accounting policy the bidder wants to employ to account for the acquisition. The availability of financing derives from the available debt and cash reserves of the bidder to make a cash offer. If the company has insufficient cash reserves or high gearing it might not be able to raise enough capital for a cash offer. Liquidity of the bidder might also pose similar threats.

The tax consideration is applicable when the bidder wants to structure the acquisition financing in a way that maximizes the tax reliefs and consequently increasing the value

of the acquisition. Depending on the jurisdiction the overall tax burden can be reduced by financing through subsidiaries, sheltering profits with deductible goodwill and asset write-offs, interest payment tax deductibility, carry-forward tax losses and multiple other reasons. All this must be made while maintaining a reasonable gearing ratio and credit rating as well as liquidity.

Risk management comes into consideration in the currency and valuation risk. A pure stock offer might signal that the bidder thinks itself as overvalued and by making a stock offer the target's shareholders would have to bear some of this overvaluation risk. On the other hand if the bidder has a hard time valuing the target, offers cash and, post-acquisition, skeletons appear from the target's closet the bidder's shareholders bear the entire loss. In a share exchange this risk is mitigated.

Contrary if the bidder expects good times to come it might offer cash only since then the bidder's shareholders could expect to gain extra value, assuming that the cash premium is adequate. The target's shareholders have contradictory incentives and thus the will of the target's shareholders is in a key role when considering financing.

2.6 Challenges of mergers and acquisitions

As already discussed managerial self-indulging, objectives such as empire building and diversification can be a source to a failure in a M&A transaction. However this type of deal entails several other challenges that need to be overcome before the acquisition can be declared successful. Sudarsanam (2003 p. 334) suggests that the mergers and acquisitions should be regarded as processes rather than just transactions. This implies that continuous evaluation and development of M&A policies should be made in organizations. A categorization of pre-deal post-deal challenges is used, mainly because of simplification.

Pre-deal challenges

Valuation

Valuation and deal structuring is an essential part of the acquisition. The acquisition price has to be less than the expected value enhancements (e.g. cost efficiencies, revenue enhancement, tax benefits etc.) resulting from the deal. Figure 2 presents a visualization of the importance of the valuation of the deal.

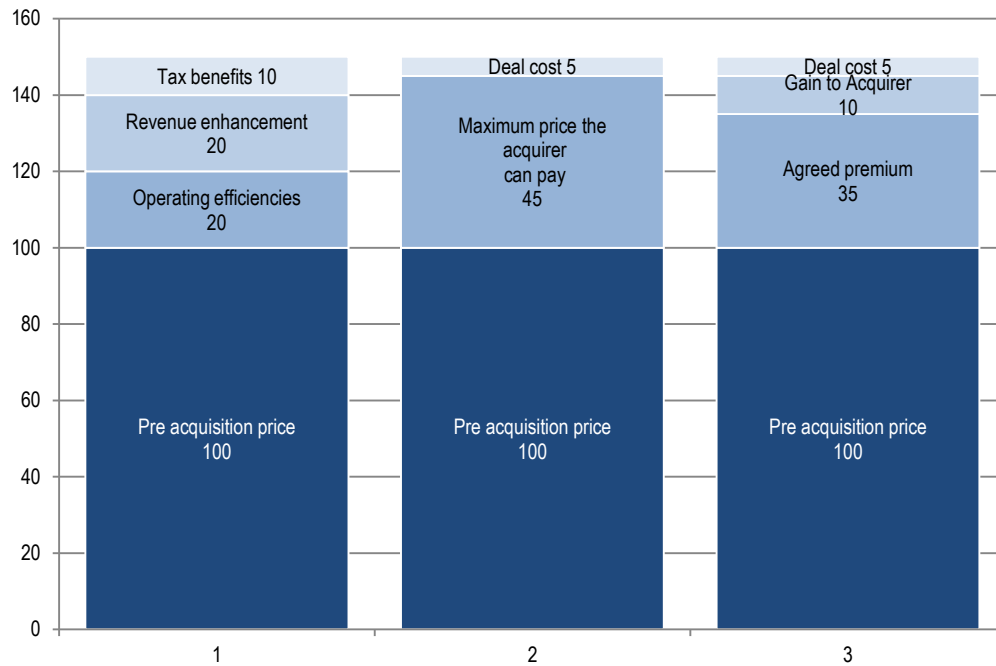


Figure 2. Value breakdown in acquisition. (After Sudarsanam, 2003)

The column on the left side of figure 2 represents the pre-acquisition price plus the value added by the acquirer which represents 50 million Euros that derive from operating efficiencies, revenue enhancement and tax benefits. The center column represents the maximum premium the acquirer can pay for the target in order for the deal to create value. If the premium exceeds the respective amount of 45 million Euros the deal will rather destroy shareholder value than create it. The last column demonstrates a case where the acquirer would pay a premium of 35 million Euros and as a result it would gain 10 million Euros of value.

The greatest challenge regarding the respective illustration is calculating the value that the acquirer can add after the deal. Damoradan (2005) asserts that most mergers and acquisitions fail to deliver any synergy benefits and that most acquirers overpay for their alleged synergies. He states that most common for the overpayment of synergies are, the already discussed, managerial hubris, bias in the estimation process and a failure to plan for synergies. He also states that the valuation process has some common errors that effect the overpayment:

a) Subsidizing the target firm stockholders

The acquirers often render into target firms premiums for assets that the target had no role in creating. An example of such subsidization is a situation where the acquirer has a high debt rating with a cost for debt of 3 % and the target has a much lower one with a

cost for debt of 6 %. When computing the cost of capital for the target firm the cost of debt is calculated with the acquiring firms cost of debt with the argument that the acquisition will be funded with new debt at a lower cost. The lower cost of capital will result into a higher valuation of the target firm and hence the acquirer will subsidize the targets shareholders albeit they do not play a role in the higher rating.

b) Wrong discount rate

The calculation of the cash flows of the future synergies are discounted with a discount rate. A common mistake in choosing the discount rate is to choose either the discount rate for the target or the acquirer instead of the discount rate for the combined firm. Another mistake is to count “sure” cash flows such as tax benefits with the riskless rate since synergies are never riskless.

c) Value of control

The value of control derives from the assumption that the acquirer can manage the target in a more efficient way than the current management. Often when valuing a company the value of control is calculated as a part of the synergies and thus it will result in confusion and overlapping i.e. some parts of value might be calculated twice.

Defense against takeovers

When attempting a takeover via tender offer the acquirer might face challenges in persuading the target stockholders to tender their shares. This can be a result of either the reluctance of the management against the bid or a competing bidder in which case the tender offer can result in a corporate takeover battle. Resisting a bid can be premised on the belief that remaining independent serves the interests of the target shareholders, the attempt to extract a maximum premium from the bidder or the fear of losing their position. (Sudarsanam 2003 p. 506-507)

Takeover defense strategies can be categorized in pre-bid defense strategies and post-bid defense strategies. Pre-bid defense strategies are pre-emptive actions which help the company to anticipate unwanted bids. Consequently post-bid strategies are implemented after the bid is placed. Table 3 illustrates the various pre-bid strategies.

Table 3. *Pre-bid defensive strategies.* (After Sudarsanam 2003, p. 508)

Action		Result
Internal Defenses		
Operational efficiency		Higher EPS resulting into higher share price
Strategic focus: divestments, demerger, carve-outs, etc		Improved EPS Asset stripping by bidder difficult
Firms capital structure: Several share classes, high gearing, share buyback		Control by bidder difficult High gearing makes LBO's difficult
Management structure, golden parachute		Predator control delayed and bid cost increased
Cultivate unions and workforce		Form alliances against bidder, share support from pension funds etc.
External defenses		
Influence shareholders through investor relations: advise about performance and future outlooks		Ensures loyalty and support of key shareholders
Influence analysts: inform about strategy and future outlooks		Share undervaluation risk mitigated and bid cost raised
Embrace social responsibility to improve social image		Public hostility against predator/bidder
Strategic defense investments e.g. joint ventures and mutual shareholding		Predator control blocked
Monitor the share register for unusual share purchases		Early warning about possible predators

Some of the actions represented in table 3 are regulated by Governments for example the UK Companies Act 1985 states that the true owners behind the purchase must be able to be tracked. On the contrary some actions are not available for other countries. Johansson and Torstensson (2008) find that in the Swedish market the most frequent defense strategy is to attack the logic of the bid. Also corporate restructurings are known to be used to increase the bid.

Post-offer defense strategies differ from pre-bid defense strategies since when a bid is placed the time is of the essence for the targets management. Sudarsanam (1991) presents a comprehensive list of post-offer defense strategies used in the UK presented in table 4.

Table 4. *Post-bid defense strategies. (After Sudarsanam 1991)*

<i>Defense</i>		<i>Purpose</i>
First response and pre-emption lett		Attack bid logic and price; advise target shareholders not to accpets the bid
Defence document		Praise own performance and future outlooks, ridicule bid price and logic, bid financing and bidder track record
Profit report		Report improved profits to make the offer look cheap
Promise higher dividends		Increase shareholder returns and make predators promise of returns look bad
Asset revaluation		Revalue intangibles an dother assets, show that the bid undervalues the target
Share support campaign		Enlist own employee pension fund to attempt to block control
Regulatory appeal		Lobby regulators to block the bid
Litigation		To enforce antitrust rules or force disclousure of nominee shareholders
Acquisition and divestments		Buy a business to make the target bigger or incompatible with bidder, sell "crown jewels", Management buyout, bidder strategy made obsolete
Unions/workforce		Show that relations with them will be compromised if the bid is accepted
Red herring		Attack predator on peripheral matter
Advertisement		Media campaign to discredit bid

Sudarsanam (1994) finds that during 1983-1989 from sample of 238 UK companies 147 successfully defended themselves. Cross-shareholding, shareholder agreements giving first refusal right, board changes made difficult by acquirer and restrictions in disinvestments in subsidiaries or sale of assets characterize Sweden's pre-bid strategies. Post-offer strategies include frustrating actions subject to approval by shareholder meeting (Sudarsanam 2003, p. 520). However Burkart & Panunzi's (2006) literature review suggests that there is no evidence of the effects of takeover defense impact on shareholder wealth.

The costs of different defense strategies vary, but Johansson and Torstensson (2008) conclude that the most cost-efficient defense strategy is attacking the logic of the bid and giving positive information. Additionally such defense strategies do not influence other strategies that might be needed to be implemented to defend against the takeover. Costly strategies, which are scarcely used in Sweden are the Crown Jewel and scorching

earth in which the company divests its most valuable or other key assets to make the Target unattractive for the bidder.

Post-deal challenges

After the deal is closed two separate entities must be integrated or if the acquirer is a private equity player the strategic adjustments that were planned must be implemented. Haspelagh & Jemison (1991) present a matrix of the tradeoff between strategic interdependence and need for autonomy for the acquired company. The integration matrix is provided in Figure 3.

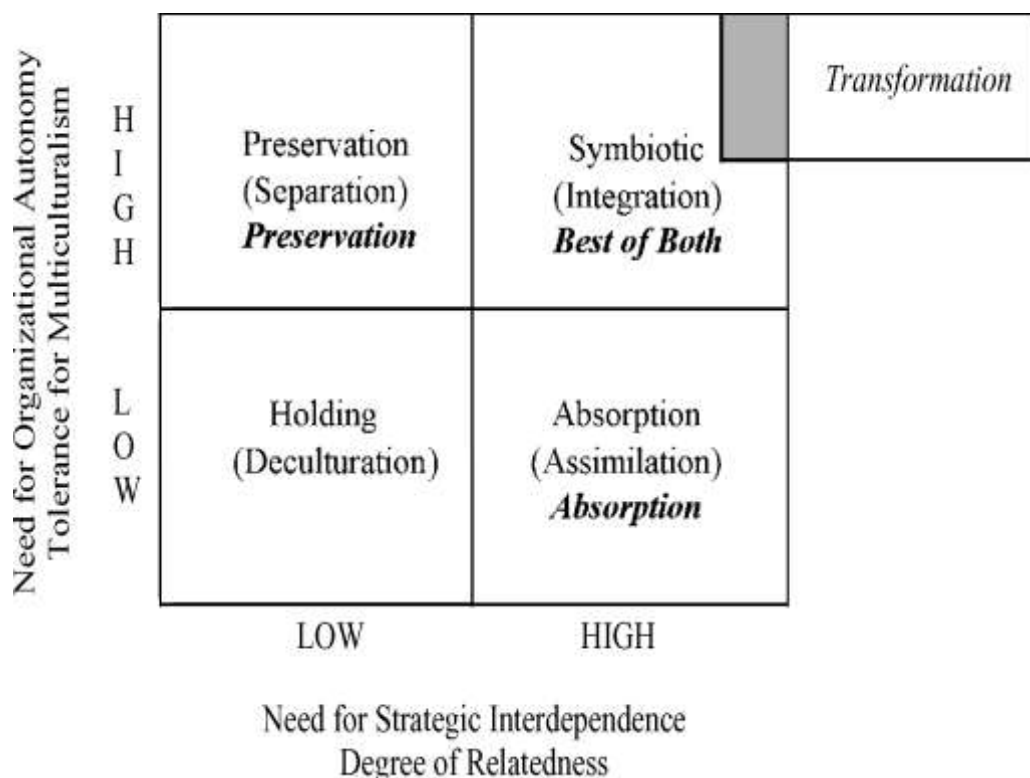


Figure 3. Integration approaches. (After Ellis and Lamont, 2004)

The mix of autonomy and strategic interdependence leads to four types of post-acquisition integration types: portfolio management, preservation symbiosis and absorption. A successful integration requires identifying characteristics of both parties and applying the corresponding integration approach.

Haspelagh & Jemison (1991) find three possible reasons for integration problems: value destruction, determinism and leadership vacuum. Determinism can be described as holding on to the pre-acquisition plan no matter what, which leads into unrealistic integration plans. This sparks hostility against the managers which can erupt in a non-cooperative environment that harms the transition process. Value destruction may appear in a situation where the integration experience of managers on both sides is not

aligned with their expectations and they stand to lose in the process. Thus the acquisition erodes value at a personal level. If the managers believe the acquisition is value destroying on a personal level, distrust and cooperation may become an obstacle. Lastly the commitment of top management from the acquirer side might constitute to a problem of confusion hence the top management involvement is important.

Other integration problems might stem from the infrastructure of the company. Such infrastructure can be intangible, such as culture or tangible like information technology systems. Prior to acquisition capabilities to integrate such infrastructure should be examined especially relating to culture of the company, since it is a challenging area to control.

2.7 Market efficiency

Eugene Fama (1970) introduced the hypothesis of efficient markets. The hypothesis elaborates the connection between information and stock prices i.e. how the information about the underlying stock is incorporated in the price of the respective stock. The efficient market hypothesis can be broken down into three categories:

- Weak form efficiency
- Semi-strong form efficiency
- Strong form efficiency

The weak form efficiency states that prices of traded assets reflect all past publicly available information. This implies that prices of assets cannot be predicted by analyzing prices from the past. In semi-strong form efficiency it is implied that additionally to the conditions that apply in weak form efficiency, publicly available new information is reflected in the asset prices rapidly. This entails that trading on the new information will not yield excess returns. The last form of efficiency, the strong form, asserts that assets prices comprises all information, public and private and hence there is no excess returns to be made by no one. Legal restrictions, such as insider trading laws, make the strong form efficiency obsolete, unless in a case where laws are universally disregarded.

The efficient market hypothesis is covered because the event study methodology heavily relies on the premise that the respective hypothesis works. The hypothesis establishes the connection between stock prices and information that is essential when conducting an event study. If the efficient market hypothesis is valid the study will show abnormal returns immediately after the announcement of a merger or and acquisition. In case of zero abnormal returns the efficient market hypothesis is not valid or the announcement has no impact on shareholder value.

2.8 Information asymmetry

Asymmetric information is a phenomenon related to market efficiency. Harris (2002, p. 14) describes the respective term as a situation in which some of the traders in the market hold more or better information than others. Gajewski (1999) introduces a hypothesis that some traders have better capabilities to interpret information and thus have an edge over other traders while creating information asymmetry in the market. In transactions, such as M&A deals, information asymmetry creates an imbalance which can lead into problems like adverse selection and moral hazard (Wilson 2008, Ledyard 2008).

Adverse selection can be described as a situation in which the ignorant party lacks information while negotiating an agreed contract. Akerlof (1970) uses insurance as example of adverse selection; a person who is high risk is more likely to buy insurance since the insurance firms cannot effectively separate the risky persons from the less risky. In the context of mergers and acquisitions an example of adverse selection could be a situation where the selling company has some information that the acquirer does not possess and hence might overpay for the target, creating superior abnormal returns for the targets shareholders and destroy value of its' own shareholders. These kinds of risks are often mitigated by paying part of the consideration with stock. Unsolicited tender offers face a serious threat in the respective situation since they are executed under limited information on the target.

Moral hazard on the other hand relates to activities after the agreement such as the possibility to monitor performance or not being able to influence the problem. Such problems in an M&A transaction could arise in the already discussed management personal motives or in the post-acquisition integration in respect of the motivation of the employees.

3 CHARACTERISTICS OF THE NORDIC M&A MARKET

This chapter covers the characteristics of the Nordic mergers and acquisitions market. Market size, deal flow trend, active sectors and other factors that might affect the results of the event study are described. The Nordic mergers and acquisitions market is highly integrated and the sample's 87 cross-border acquisitions reinforce such notion.

3.1 Nordic M&A market general characteristics

According to Roschier (2013) the Nordic M&A market is a mature market, offering sophisticated market practices and deal documentation which promotes high deal activity. They also argue that the various countries in the Nordic market are well integrated since the legislative tradition is quite similar in the different countries, especially in Finland and Sweden. A good integration enables a steady flow of cross-border acquisitions that add up to the total value of the deals.

The financing of M&A transactions also plays a big role in deal activity and hence the healthy financial sector and willingness to finance transactions constitutes to the execution of M&A deals. Additionally Nordic large listed corporations that have been active players in the market tend to have healthy balance sheets. (Roschier 2013)

Nordic countries tend to yield a lower premium than other European countries, which could be a result of the tendency for friendly deals (Moschier & Campa 2009). Grossman and Hart (1980) explain that friendly deals yield lower premiums on average compared to hostile deals.

3.2 Market size and deal flow

The Nordic M&A market totaled 41.3 billion Euros in 2013, which represented an 8.1 percent increase from 2012. (MergerMarket 2014) When subtracting the share of deal value in Norway the total market size comes up to a total of 29.1 billion Euros. From the remaining value Finland represented the largest share in 2013 followed by Sweden and Denmark in the respective order. However, 2013 cannot be considered a good proxy for the relative portion of deal value by country because the normal trend is that Sweden represents the majority of the deal value followed by Finland and Denmark in a

changing order. Figure 4. presents the M&A deal value broken down by country from 2007 to 2013.

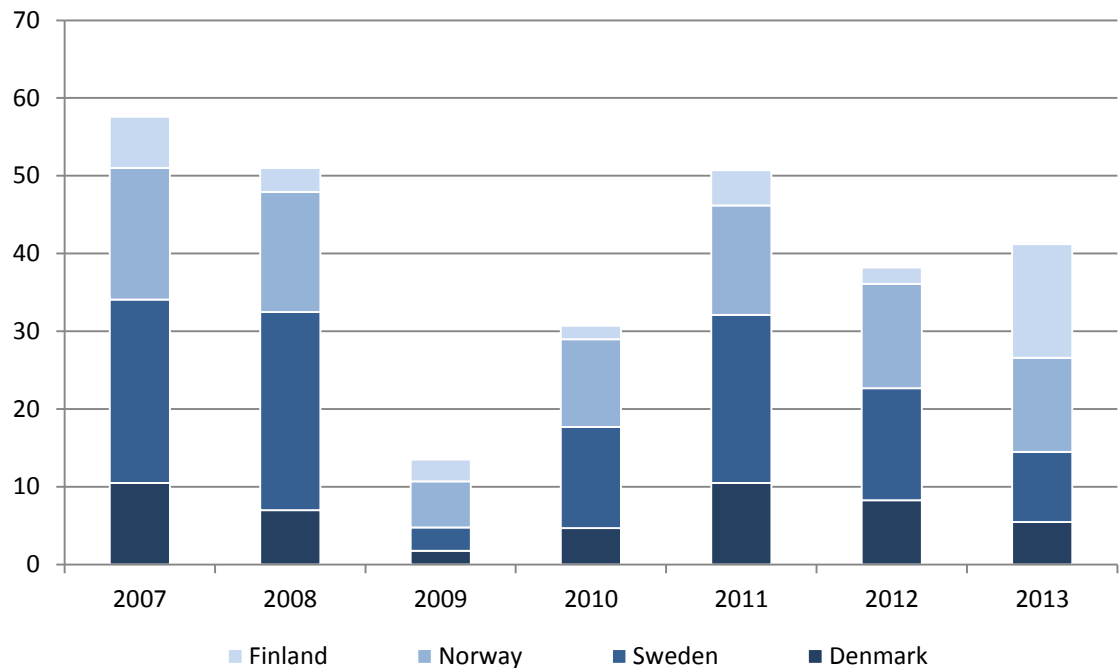


Figure 4. *Nordic Merger and Acquisition Market: Country Breakdown.*(MergerMarket 2014)

Finland's dominant position in 2013 can be mostly contributed to the sales Nokia's Devices and Services Business Division which accounted for 5.4 billion euros and Fortum's 2.6 billion Euro deal concerning the sale of its' electricity distribution companies.

The Nordic's contribution to Europe's M&A is relatively small, fluctuating between 4 and 10 percent, which is consistent with the relative market capitalization of the companies in the OMX Nordic compared to aggregate value of stock indices in the European Union. (MergerMarket 2014, Nasdaq OMX Nordic 2014, IndexMundi 2014)

As earlier stated M&A deals tend to fluctuate cyclically and time period between 2007 and 2013 seems to follow the proven pattern. When comparing figures 4 and 5, one can detect the same fluctuation in M&A deals as the OMX Nordic 40 index, but with a short delay.



Figure 5. OMXH Nordic 40 from 2005 to 2016. (Nasdaq OMX Nordic, 2016)

The crash of late 2008 and early 2009 is present in the value of M&A deals in 2009 as well as the decline in 2011. We can derive in a result that the studied period in this thesis (2005-2010) incorporates a bull market from 2005 to 2007 as well as a bear market from 2007 to 2010. The fact that both bull and bear markets are included in the time period eliminates the biased view of either a growing or a declining market.

Gaughan (2007) argues that M&A activity is fostered by the presence of Private Equity firms and that the boom in European M&A activity was fueled by hedge funds and private equity firms. Figure 6 shows the Nordic private equity activity between years 2007-2013.

Figure 6 presents a similar trend for the private equity deals as M&A deals altogether but with an even higher volatility in the value of deals. This may be a result of a higher sensitivity of funds and private equity firms to bear market conditions as well as available funding.

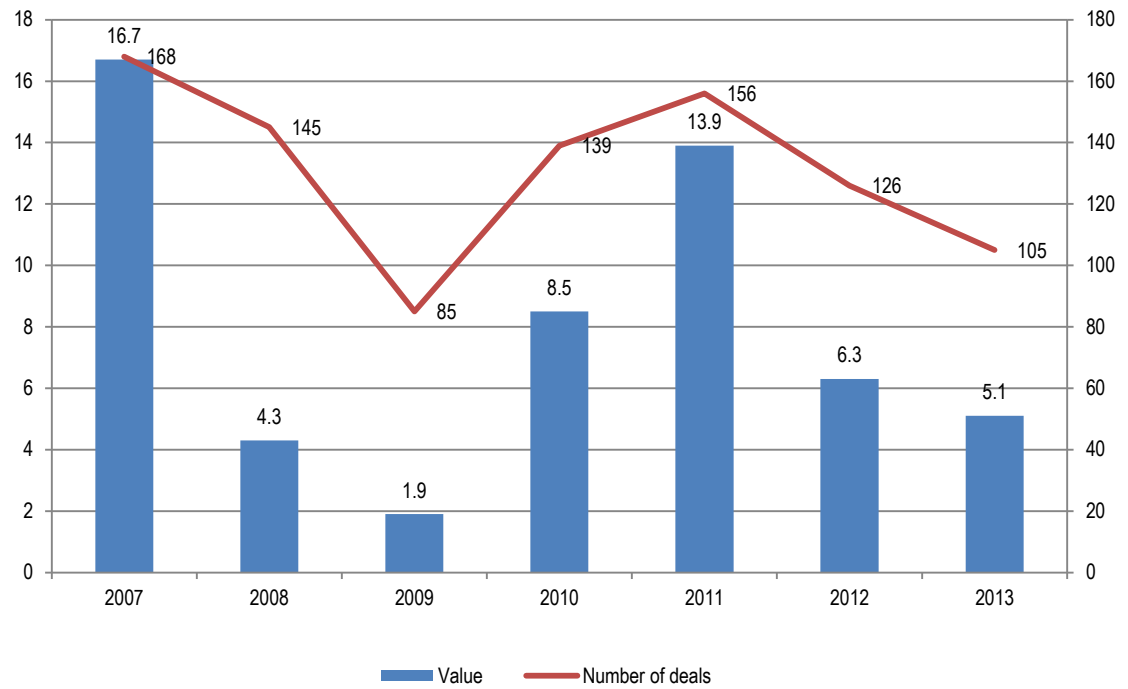


Figure 6. *Nordic Private Equity Deals (MergerMarket 2014)*

4 HYPOTHESES

The stock market reaction after a merger and acquisition announcement is defined by the consensus opinion of market participants and their expectation of the company's ability to generate returns after the acquisition, i.e. how the decision to pursue the concerning acquisition will affect the firm's future cash flow and hence value. A positive reaction denotes that the participants expect the firm to perform better after the acquisition, whereas a negative reaction signals that investors anticipate the firm's cash flows to be value destroying, i.e. smaller cash flows compared to if the acquisition would not have happened.

As discussed in previous chapters motivations for acquisition can vary from managerial hubris that usually is value destroying to strategical acquisitions that improve the company's market position, such as acquiring a competitor to gain pricing power. Previous studies results are dispersed to both negative and positive reactions, which combined with the arguments on the motivations of acquisitions, would suggest that the total acquirer returns be close to zero. Given the previous literature and varying rationale to conduct acquisitions the first hypothesis is as follows:

Hypothesis 1: "Acquisitions create positive or close to zero returns on an aggregate level for the sample."

Consideration type used to finance acquisition is a widely studied area, and the results of previous studies have somewhat controversial outcomes. For example Eckbo et al. (1990, 2000) suggests that bidder gains are greatest when executing acquisitions with stock deal or a deal with combination of stock and cash. Theories supporting greater returns from stock or hybrid deal rely on arguments about reduced risk of overpaying since some of the valuation risk is borne by the target and financial slack theories; if a firm has excess cash for acquisition it might execute a more aggressive merger and acquisition strategy and the management has the possibility to take on to empire building. Hansen, 1987; Fishman, 1989; Eckbo et al., 1990 have studied information asymmetry's role in the choice of financing an acquisition. And explain stock deals' larger returns with tax benefits and information asymmetries as well as with a bigger premium in cash deals because of the "tax penalty".

Another view provided by Travlos (1987) and Moeller et al. (2004) present evidence that bidder returns are higher in cash offers compared to a hybrid financing or an all-

stock deal. Greater returns for cash deals are often argued with signaling and smaller risk of overpaying. Indeed Eckbo (1990) states that mergers which are financed with cash, do not have the signaling effect, because the value of the target is easily visible and the acquirer does not have as big of a risk in overpaying due to transparency. Consequently overpaying is seen as an issue in both stock and cash deals. Delcoure and Hunsader (2006) find evidence that in cash deals' the most important determinant is the target industry. Bruner (2004) study suggests a similar pattern by observing the consolidations on different decades. Given the arguments stated by an abundance of research and argumentation we conclude our second hypothesis is as follows:

Hypothesis 2: “Acquisitions that are financed with cash yield greater returns than do those that are financed with stock on a SCAR basis. The market reaction for acquisitions financed with both cash and stock are expected to have greater returns than those financed solely with stock. Consequently all stock financed acquisitions are expected to generate the least returns.”

The second hypothesis stands on the notion that transparency and confidence are valued by investors more than benefits from stock finance acquisitions. Cash deals provide transparency in valuation of the target and signal confidence in the acquisition. Even though the results from previous studies are dispersed, more studies suggest that cash deals generate greater returns.

Cross-border acquisitions have become more common due to globalization and hence existing studies from different decades might yield varying results. Also the rationale for cross-border M&A is often different. The hypothesis is that cross-border acquisitions bear more risk and hence should also have higher returns when successful. However, at present the risks have been mitigated by globalization and common trade areas and jurisdictions. As a result the assumption is that cross-border acquisitions used to generate larger returns in the past that they do nowadays. Danbolt (1966) finds that target company's shareholders gain 6 to 11 percentage points more compared to domestic M&A deals. Harris and Ravenscraft (1991) argue that the abnormal returns of cross-border mergers and domestic ones do not have significant difference in returns. The two studies are conducted almost 30 years apart and reassert our hypothesis. Georgen and Renneboog (2004) find that in Europe cross-border mergers yield a 9% return for the target's shareholders, but only 0.7% for the bidders, which is not much greater than general studies of abnormal returns. Kang (1993) suggests that cross-border acquisitions are expected to generate more wealth than domestic acquisitions due to the fact that multinational firms tend to have competitive advantage over local ones. The discussion leads us to the hypothesis 3:

Hypothesis 3: “Cross-border acquisitions yield higher SCAR than acquisitions in which both the acquirer and the target are based in the same country”

Hypothesis 3 is based on the greater risk that cross-border acquisitions bear and the competitive edge that multinational firms have over local ones. We also expect to see more variance in cross-border acquisition returns due to the very same reasoning of higher risk.

Valuation theory suggests that the liquidity of an asset has effect on its underlying value, i.e. an asset that bears costs or inconvenience in the selling process (illiquid asset) reduces the assets value. In the context of this study the comparison would be between a publicly listed company and a private entity. Fuller et al. (2002) find that the bidder has positive returns when buying a private firm but destroys value when acquiring a public one. They argue that illiquidity of private companies is one of the reasons for a discount and hence the cumulative abnormal returns for the acquirer in private firm acquisitions are correlated positively with the size of the target. Similar results are found by Chang (1998) who finds that when private firms are acquired with cash significant positive returns are expected. When the consideration is paid with stock the returns are lower, but positive. Hansen and Lott (1996) find a similar pattern with Fuller (2000) in which when the bidder is acquiring a private firm bidders experience 2 % higher returns than when acquiring a public one. Consequently we arrive at the following hypothesis:

Hypothesis 4: “Acquisitions of private firms yield greater returns than those that involve acquiring a publicly listed company for the acquirer. Furthermore we expect that an acquisition of any other type of illiquid asset creates greater returns in comparison to more liquid assets.”

The final hypothesis, hypothesis 5, is based on the differentiation of offer type to acquisition and tender offer. Existing literature suggests that tender offers usually entail higher premium compared to acquisition due to the nature of tender offer. Unsolicited bids might require higher premium in order to be successful and since acquirer might act under less information than in solicited bids the valuation is more uncertain. Under the aforementioned premises we conclude our final hypothesis:

Hypothesis 5: “Tender offers yield lower returns compared to acquisitions or other transactions that are solicited by the executive board.”

5 DATA AND METHODOLOGY

This section describes the data used for the analysis and introduces the reader to the methodology that is applied in the study. First it covers the description and characteristics of the data sample and thereafter introduces the event study methodology. Under the event study analysis chapter normal performance, abnormal returns and the null hypothesis are discussed.

5.1 Data description

The data used in this study comprises of 80 companies from NASDAQ OMX Nordic. The total count of transactions is 196 of which 144 are studied. 57 of the transactions were national i.e. transactions in which both the target and the acquirer are headquartered in the same country. Cross-border transaction count was 87 with targets from the Nordics, Europe, Asia and Americas. List of all stocks included in this respective study can be found in appendix 1. All the stocks that were included were a part of the respective indices in the time period between 2006 and 2010. The data sample was limited with to satisfy the following criteria:

- Stock liquidity
- The acquired company has business operations, i.e. not purely an asset
- The acquiree company is publicly listed in Copenhagen, Helsinki or Stockholm stock exchange
- Percentage of the shares after the deal is over 50%

Stock liquidity is defined by the trading volume of the respective stock. The requirement for the majority ownership after the deal is set to limit the transaction to the ones that have effect on the control of the target company. The requirement for the majority ownership after the deal is set to limit the transaction to the ones that have effect on the control of the target company.

The filtered sample consists of 144 transaction announcements of which some are offers and the rest completed deals. In case of tender offer it is necessary to observe the abnormal returns as at the offer date since the stock market reacts to offers rather than closings of deals. For some deals abnormal returns have been calculated as at the announcement date since the market usually reacts to the announcement rather than the closing of a deal. It is important to understand the two categories in order to capture the

true abnormal returns. The reason for this is that usually investors react to announcements if they see that the deal will occur with certainty, consequently announcements of completion of deals are usually anticipated and hence not reflected in the stock price. However some deals are announced only at closing and consequently the returns are calculated at closing. The distribution between closed and announced deals in the sample is presented in table 5

Table 5. *Sample distribution of closed deals and offers.*

		2006	2007	2008	2009	2010	Total
Complete	C	1	45	28	18	12	104
Offer	O	4	21	8	7	0	40
Total		5	66	36	25	12	144

We also study the returns in cross-border deals versus ones that are not. The data consists of 87 deals in which the acquirer and target are located in different countries and 57 deals in which the acquirer and the target are incorporated in the same country as depicted in table 6. The evenly distributed number of deals in each category ensures that the returns are most likely meaningful.

Table 6. *Sample distribution between cross-border and national deals.*

		2006	2007	2008	2009	2010	Total
Cross-border	1	4	38	24	14	7	87
National	0	1	28	12	11	5	57
Total		5	66	36	25	12	144

The distribution of deals in the sample by consideration type is presented in table 7. Most of the deals in the sample had cash as consideration, which is in line with the hypothesis; cash deals are perceived more typical than stock or hybrid deals. Additionally a large amount of deals do not include consideration details.

Table 7. *Sample distribution according to consideration type.*

		2006	2007	2008	2009	2010	Total
Cash	C	3	23	18	12	5	61
Stock	S	1	7	1	3	0	12
Hybrid	H	0	7	3	1	2	13
NA	N	1	29	14	9	5	58
Total		5	66	36	25	12	144

The sample is divided according to target characteristic into transaction with private and publicly listed targets. This is done in order to capture the hypothesis, that private companies are assumed to include an illiquidity discount, which is discussed in chapter 2.4.1. The sample seems to be distributed so that private companies have been the target in majority of the deals, but public company acquisitions are also abundant making the examination viable.

Table 8. *Sample distribution between private and publicly listed companies targets.*

		2006	2007	2008	2009	2010	Total
Private	1	2	46	20	13	11	92
Public	0	3	20	16	12	1	52
Total		5	66	36	25	12	144

Tables 9, 10 and 11 illustrate the data according to industry category, country of incorporation and by company, respectively. Most of the transactions involve technology or industrial companies as anticipated. Majority of the sample transaction involve a company from the Helsinki stock exchange, in which industrial or technology companies accounted for almost half of the total count during the examined time period.

Table 9. *Sample distribution according to industry category.*

	2006	2007	2008	2009	2010	Total
Consumer Goods	1	4	3	0	2	10
Industrials	1	16	14	4	4	39
Financials	0	15	3	4	1	23
Telecommunications	0	0	1	1	0	2
Utilities	0	0	1	0	0	1
Consumer Services	0	8	1	4	2	15
Basic Materials	0	4	0	2	0	6
Oil & Gas	0	0	0	0	0	0
Technology	2	16	12	8	2	40
Health Care	1	3	1	2	1	8
Total	5	66	36	25	12	144

Table 10. *Sample distribution according to country of incorporation.*

		2006	2007	2008	2009	2010	Total
Finland	FI	1	45	25	14	11	96
Sweden	SE	3	19	7	9	0	38
Denmark	DK	1	2	4	2	1	10
Total		5	66	36	25	12	144

Table 11. *Sample distribution by company.*

	2006	2007	2008	2009	2010	Total
Panostaja Oyj	0	4	1	1	1	7
Kinnevik A	0	1	1	3	0	5
Aldata Solutions	0	1	2	0	1	4
Ericsson A	0	2	0	2	0	4
ICA Gruppen	0	2	0	2	0	4
Other	5	56	32	17	10	120
Total	5	66	36	25	12	144

The companies that are included in the study can be found in table 12. Some of the companies were delisted during the time window of the study and they are presented in appendix 3.

Table 12. Sample distribution by company.

Panostaja Oyj	Oriola-KD A
Kinnevik A	Rapala VMC
Aldata Solutions	Sanoma Oyj
Ericsson A	Pöyry Oyj
ICA Gruppen	Raisio
Atria Oyj A	Readsoft
LBI international	TeliaSonera
Metso Oyj	Alma Media Oyj
Wulff-Yhtiöt Oyj	F-Secure Oyj
Basware Oyj	Tryg
Teleste Oyj	Lundbeck
Lindab International	Terveystalo
Revenio Group Oyj	Vaisala Oyj A
Julius Tallberg kiinteistöt	Biotie Therapies Oyj
Transcom worldwide	Olvi Oyj A
Turvatiimi	Affecto Oyj
Takoma Oyj	A.P. Møller - Mærsk A
G4S plc	Millicom Int. Cellular SDB
Outotec Oyj	Tieto Oyj
Afarak Group	Fortum Oyj
Soprano Oyj	Vacon
Rocla	Dovre Group
Evia Oyj	Stockmann Oyj Abp B
Topsil Semiconductor Materials	Trainers' House Oyj
Aspo Oyj	Technopolis Oyj
Pohjola Pankki	Kaupthing
Rejlers	Citycon Oyj
Bure Equity	A-Com
Perlos	KappAhl
Kemira Oyj	Keops
Ixonos Oyj	TradeDoubler
Securitas B	Etteplan Oyj
Bittium Oyj	Glaston Oyj Abp
Fiskars Oyj Abp	Codan
Ahlstrom Oyj	Invik Co
Oral hammaslääkärit	Componenta Oyj
Kesla A	Nokia Oyj
EVOX Rifa	AstraZeneca
Lemminkäinen Oyj	FLSmidth & Co.
SSH Communications Security	United Int. Enterprises

5.2 Data gathering and variables

The stock data was gathered from database containing the stock data for all relevant stocks in the underlying indices. Splits of each stocks are also determined for comparability. During years 2005-2010 16 splits occurred in the relevant sample of which 7 were some sort of stock split, 8 were either stock issues and one de-merger. The news data was scraped from the website of NASDAQ OMX Nordic and manually sorted in pre-determined categories described in the control variable section.

5.2.1 Variables

The respective study has one independent variable, which is a corporate announcement on an acquisition or a tender offer. The selection has been restricted to corporate announcements opposed to both corporate announcements and media news, since the external media should not attain acquisition or tender offer information before the company has released a corporate announcement on such event. However it must be noted that in many cases rumors on prospective acquisitions and tender offers exist in the market and might affect the stock price before the actual event time, $T=0$.

5.2.2 Control variables

Based on previous studies and assessed key parameters affecting a deal the following control variables were chosen:

- Nationalities of the deal participants: Was the deal a cross-border deal?
- Financing: Was the deal financed with stock, cash or both?
- Target characteristic: Was the target a public or a private company?
- Deal type: Was the deal a tender offer or an acquisition?

The data sample is also bound by language since only announcements in Finnish and English were used. Thus if a company reports only in Swedish or Danish, the respective transaction was not incorporated in the studied data.

5.3 Event study analysis

Event study analysis relies on a premise, that when measuring an impact of an economic event (in this study M&A transaction), one can observe the fluctuation in asset prices after the announcement of such event. In other words, conducting an event study comprises of observing the share prices around the transaction/event and measuring the change in share prices. The usefulness of such method is based on the assumption of efficient markets, i.e. the effect of such event is reflected immediately in asset prices.

According to existing literature (e.g. Andrade et al. 2001) the traditional short-window event study methodology is most reliable for estimating whether M&A transactions create or destroy shareholder value, when average abnormal returns are used as a proxy for value creation. Moreover, Andrade et al. (2001) and Tuch & O'Sullivan (2007) provide evidence of short-window event studies having less methodological problems compared to long-window event studies.

A normal return is a return expected in a situation with no announcement, which can be considered as a default situation. The assumption for a default situation is the average of the returns from the estimation period. The data for the normal returns is extracted from a period prior to the transaction announcement date and it is usually referred to as the estimation window. The estimation window in the underlying thesis is 120 trading days (starting ending). The estimation window usually does not overlap with the event window to prevent the event from influencing the normal performance model parameter estimates.

The event window is the chosen time period after the event announcement has been made. In this study the respective window is three days. A three day period was chosen because existing literature suggest that in order to capture the actual abnormal returns in all cases, the window must include deals that were announced after the market is closed. Additionally if the announcement date is misplaced by a day the three day event window will capture the returns. (MacKinlay, 1997)

After computing the normal returns, they are compared with the returns observed within the event window. The percentage difference between the returns from the estimation and the event window will represent the abnormal returns on the underlying stock/asset. (MacKinlay, 1997)

In order to conduct an event study the following assumptions must be taken into consideration and assume that they hold:

- Market efficiency
- Information asymmetry
- No simultaneous events

Market efficiency includes the presumption that stock prices reflect all relevant information that is available in the market. It also assumes that the effect of economic events is reflected in the price in a relatively short period of time thus share prices should react only in case of an event such as a M&A announcement. Information asymmetry entails the nature of the information published i.e. it assumes that the information is unantic-

pated and no investors have got an edge by receiving the information in advance. The third assumption relates to confounding events. The assumption states that no confounding events must be imposed for the purpose of isolating the event of interest from other events that may occur simultaneously. Figure 7. illustrates the described event study process.

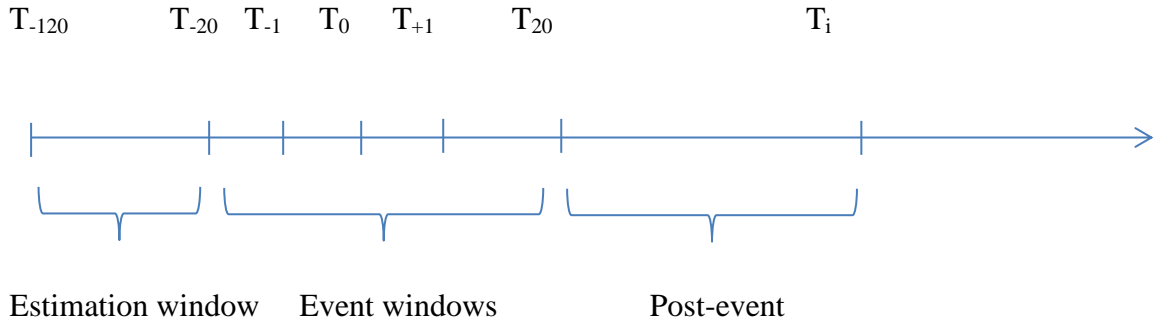


Figure 7. *The structure of event study methodology.*

The event study process has multiple steps which are conducted in a pre-determined order. First the event of interest is identified and the period over which share prices of the companies being included in the study will be examined. The next step includes determining the selection criteria for the inclusion of a firm in the study. In this phase it must be studied whether all the companies in the study are valid under pre-determined conditions. After this normal returns will be calculated for the sample in the frame of the estimation window to observe the normal return of an asset. Finally the abnormal returns are calculated in the frame of the event window and cumulative abnormal returns will be statistically observed to get validity and insight on the results.

Choosing the estimation and the event window

The estimation and event window were selected using previous literature (e.g. MacKinlay 1997) as a basis. The estimation window was set to 120 days prior to the event. Assuming that there are approximately 22 trading days per month the normal performance is measured over 5.5 months approximately. This should be a timespan enough to capture the actual normal performance. The estimation window does not overlap with the event window so that the event under study does not affect the normal returns.

Event windows used in previous short window studies are usually three days long $[-1, 1]$. This thesis applies the same event window length since it has been proved to yield robust results. A three day window ensures that the event is taken into account even if the date in the data is misplaced by 1 day.

This thesis uses an intraday analysis with a sampling interval of 5 minutes. A sampling interval is the length of the return sampling interval, which determines the length between of two consecutive data points when modelling the returns. A 5 minute interval was chosen according to Reboredo et al. (2012) study that finds that a 5 minute interval ceded the best out-of-sample profitability for highly volatile periods.

Normal performance measurement

The approaches available for calculating normal performance are abundant, but they can be roughly grouped into two categories: statistical and economic. The statistical models rely on statistical assumption concerning the returns of an asset and do not depend on any economic arguments. Correspondingly the economic approach takes investors' behavior and other subjective measurements into account. In addition to this economic models utilize statistical assumptions.

The two most common choices for measuring the normal performance return: the constant-mean-return model and the market model. The constant-mean-return model is perhaps the simplest model and it assumes that an assets return over time is independent and normally distributed with constant mean and variant. In contrast the market model which relates the return of a stock to the return of the market portfolio. The market model is argued to detect abnormal returns more accurately, since it removes some of the returns incorporated in the market returns (Mackinlay 1997).

This thesis uses a simple average of the estimation windows returns, seeing that the economic models do not provide substantially superior results compared to statistical models as Brown & Warner (1980, 1985) and Brown & Weinstein (1985) and MacKinlay (1997) suggest.

The normal performance is measured by regressing the stocks' returns on the market returns over the estimation window. The estimators will be attained from the Ordinary Least Square (OLS) model. These parameters will provide us tools for estimating the normal returns. For any stock we get a formula

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}, \quad (1)$$

where R_{it} and R_{mt} are the period-t returns on the security i and market portfolio, respectively, α_i and β_i are the estimators of the market model and ε_{it} is the zero mean disturbance term.

NASDAQ OMXH Nordic equity indices are used for each country to approximate the market returns. The indices used in this study can be found in appendix 2

Abnormal and cumulative abnormal returns

An abnormal return is the difference in the normal return calculated in the estimation window and the return observed in the event window. This return is the unanticipated return that derives from the merger. Abnormal and cumulative abnormal returns can be calculated with the following formula:

$$AR_{it} = R_{it} - a_i - b_i R_{mt}, \quad (2)$$

where a_i and b_i are the estimators calculated from the ordinary least regression (OLS) model.

After calculating the abnormal returns, other aggregated results must be calculated over time and securities. Other returns calculated using abnormal returns as a basis are Cumulative abnormal returns (CAR), Standardized abnormal returns (SAR) and Standardized cumulative abnormal returns (SCAR). CAR's are calculated over the event window as cumulative results of the abnormal returns as the name implies. The standardized returns calculations are standardized in terms of standard deviation and in relation with the abnormal returns.

The SAR is standardized with its standard deviation and is calculated with the following equation (Dodd & Warner 1983):

$$SAR_{it} = \frac{AR_{it}}{SD_{it}}, \quad (3)$$

where SD_{it} is standard deviation that can be calculated with the following equation:

$$SD_{it} = \sqrt{\frac{S_i^2 \times (1 + \frac{1}{T(R_{mt} - R_m)^2})}{\sum_{t=1}^T (R_{mt} - R_m)^2}}, \quad (4)$$

where S_i^2 is residual variance of firm i from the market model and R_m is the mean return in the market portfolio during the estimation period. The SAR can be used to calculate CAR over the event window k in the following way:

$$CAR_i = \sqrt{\frac{1}{k}} \times \sum_{t=1}^k SAR_{it}, \quad (5)$$

from the calculation of CAR_i we can derive finally at the Standardized cumulative abnormal return (SCAR):

$$SCAR_{it} = \frac{CAR_{it}}{SD_{it}}. \quad (6)$$

The null hypothesis can be tested using J_2 which assumes that the distribution of abnormal returns follows normal distribution and can be calculated from SCAR with the equation:

$$J_2 = \left(\frac{N(L_1-4)}{L_1-2} \right)^{\frac{1}{2}} \times \overline{SCAR}_{it} \sim N(0,1), \quad (7)$$

where N is the number of securities, L_1 is the length of the estimation window and \overline{SCAR}_{it} constitutes to the average over N securities. The J_2 test was chosen because according to MacKinlay (1997) J_2 gives more weight on the securities with lower variance, and hence gives more robust results. If the abnormal returns are not distributed normally J_2 and J_4 tests are used for they are non-parametric tests i.e. they do not assume that returns are distributed in a specific manner.

5.4 Cross-sectional analysis of abnormal returns

After the abnormal and standardized abnormal returns have been calculated for the whole sample, it is common to examine how firm specific factors influence the abnormal returns. Theoretical models commonly suggest that characteristics specific to the event observation have an association between the magnitude of abnormal returns. Cross-sectional analysis is seen as an appropriate tool to analyse the association. However caution should be applied when interpreting the results of the cross-sectional regression approach, because in many situations the abnormal return is related to firm characteristics through a relation between the firm characteristics and the extent to which the event is anticipated, additionally to the valuation effects of the event. (MacKinlay, 1997)

The cross sectional analysis is constructed with standardized cumulative abnormal returns defined as vector y , the dependent variable, and a matrix of characteristics of interest as X . The first column of X is a vector of ones and each of the remaining columns is a vector consisting of the characteristics for each event observation. Following the previous definitions we get a regression equation

$$y = X\theta + \eta \quad (8)$$

Where θ is the coefficient vector and η is the disturbance vector. Assuming the normal returns to be 0 we can consistently estimate θ using OLS model. Additionally we assume that the elements of η are cross-sectionally uncorrelated and homoscedastic for the purpose of using the usual OLS standard error to derive the inferences.

The cross sectional analysis is done according to the underlying hypothesis i.e. consideration details, nationality details and company type. The analysis is conducted including only deals with the specific characteristics.

6 RESULTS AND DISCUSSION

In this chapter the results of the underlying event study is discussed for the total sample of 144 announcements as well as according to the defined control variables. The total examined count of transaction was narrowed to 125 in order to account for only transactions including the acquirers' returns. The results are reflected against the outlined hypothesis and furthermore discussed by benchmarking the results to existing literature on the respective subject. The main objective of the study is not to examine the total sample returns, but rather perceive the returns related to hypothesis 2, 3, 4 and 5.

6.1 Total sample returns

The core of the event study was to examine whether the acquisition announcement initiate a stock reaction. The thesis uses SCAR analysis, which assumes that abnormal returns for all stocks are standardized using their individual variances as calculated in the estimation window. It can be argued that the standardized returns provide more robust results opposed to non-standardized returns, since non-standardized abnormal returns assume that the variance for all stocks in the sample is equal. This in turn is not realistic, especially because the sample acquisitions took place over a 5 year time window.

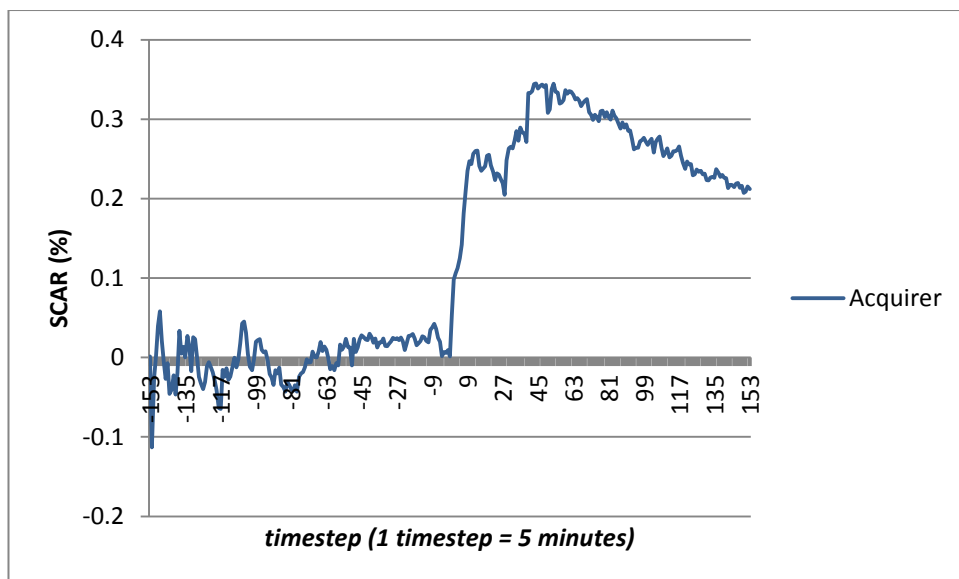


Figure 8. Standardized cumulative abnormal returns for the total sample.

The total sample shows standardized cumulative abnormal returns of 0.21% on an aggregate level. Figure 8 illustrates the SCAR pattern from which it can be observed that at T_0 the abnormal returns spike positively to 0.35% on the first day of trading and thereafter have a slight declining trend towards the x-axis. Our first hypothesis suggests that the abnormal returns of the total sample are positive or close to zero, and as it can be observed from figure 8, our results support the underlying hypothesis.

When testing the standardized cumulative abnormal returns against the null hypothesis a clear reaction at T_0 can be seen. In statistical terms the aggregate reaction reaches statistical significance, showing that the probability of rejecting the null hypothesis is above the 99% threshold.

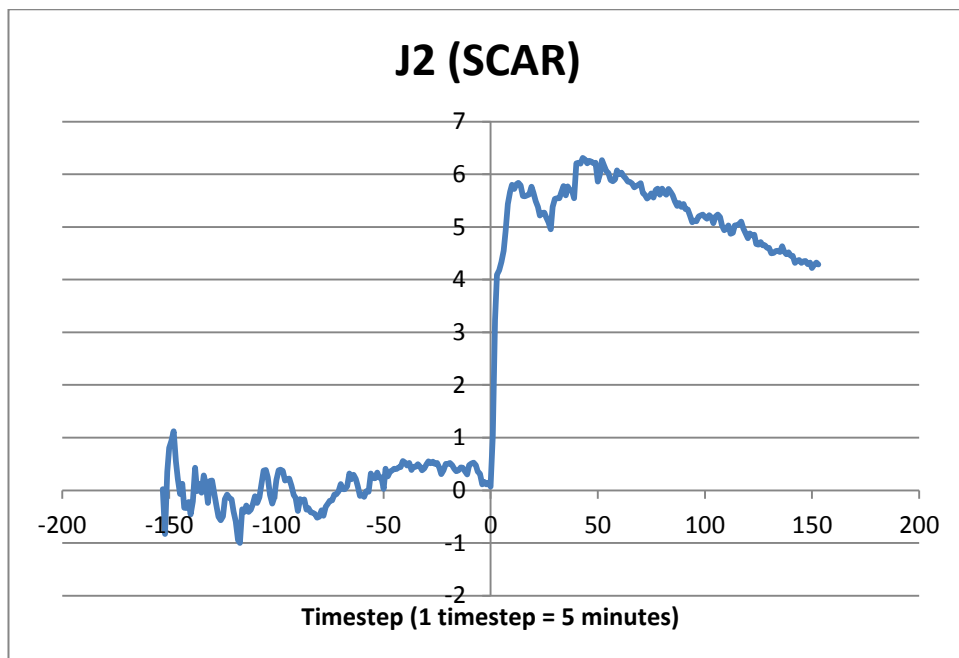


Figure 9. J_2 test for the total sample.

J_2 test assumes that the distribution of abnormal returns follow normal distribution and if the returns are not distributed normally J_3 and J_4 tests should be used for they are non-parametric tests. Figure 10 illustrates the distribution of the samples abnormal returns. The sample returns are distributed according to normal distribution giving confidence to the J_2 test.

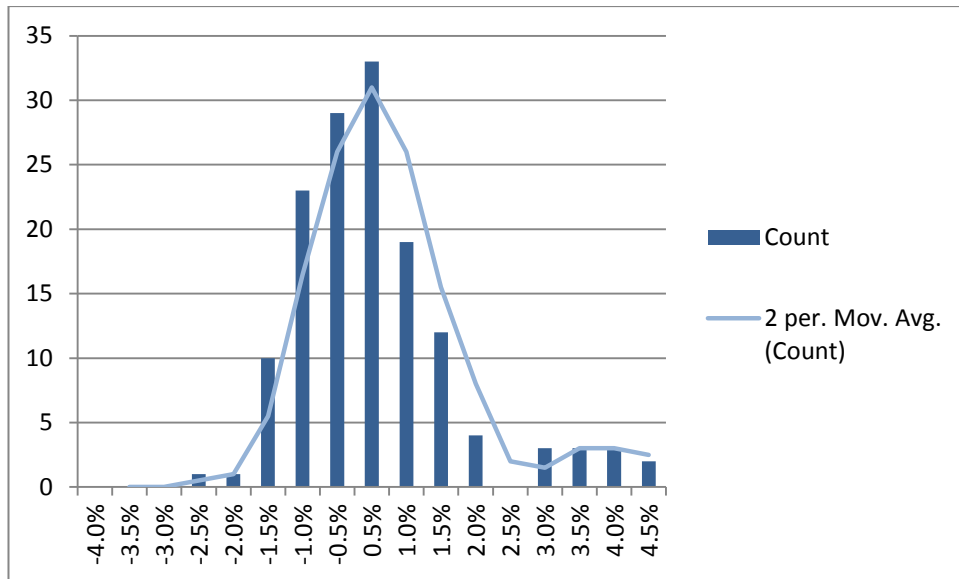


Figure 10. Distribution of the sample returns

6.2 Cross-sectional analysis

Cross-sectional analysis extends the observation of standardized cumulative abnormal returns to individual transaction specific variables. The hypothesis for the respective variables is presented in chapter 4. Table 13 illustrates the cross-sectional regression of pre-defined variables. The table presents estimated regression coefficients and the p-value that examines whether the variable accepts or rejects the null hypothesis. Statistically significant values are presented with one, two or three asterisks for statistical significance of 0.1, 0.05 and 0.01 respectively.

Table 13. *Multiple regression analysis output*

	1	2	3	4
Intercept	0.123	0.070	0.026	-0.022
Consideration: cash				
Regression co-efficient	0.069			0.135
p-value	0.742			0.546
Consideration: stock				
Regression co-efficient		-0.272		-0.122
p-value		0.415		0.731
Consideration: hybrid				
Regression co-efficient			0.599	0.628
p-value			0.0626**	0.0639**
Deal type: cross-border				
Regression co-efficient	-0.336	-0.369	-0.295	-0.328
p-value	0.081**	0.061**	0.117	0.097*
Target type: private Co				
Regression co-efficient	0.373	0.381	0.285	0.322
p-value	0.254	0.240	0.374	0.324
Offer type: tender offer				
Regression co-efficient	0.489	0.550	0.478	0.470
p-value	0.195	0.147	0.198	0.220
R-squared	0.200	0.211	0.258	0.268
Observations	125	125	125	125

From the first equation of table 13 we can interpret the slightest positive relationship between cash as consideration and standardized cumulative abnormal returns. However the p-value of 0.742 suggests that the null hypothesis is not rejected and moreover the value is not statistically significant, thus suggesting that the standardized abnormal returns are not significantly affected when using cash as consideration. The second equation is related to consideration detail as well. It examines the abnormal returns in transactions where stock was used as consideration. The equation finds a negative correlation between abnormal returns and stock payment, but yet again the p-value is high at 0.415 and the result is not statistically significant. The third equation presents the relationship between hybrid financing, a combination of cash and stock as consideration, and standardized abnormal returns. The equation suggests that hybrid financing and abnormal

returns have a positive correlation with a regression co-efficient of 0.599. The probability of rejecting the null hypothesis is rather low at 6% and the value is statistically significant. The fourth equation examines the effect of cross-border transactions to abnormal returns and finds that transactions that involve parties from several countries create lesser returns opposed to transactions with both parties headquartered in the same country. The null hypothesis is rejected at a p-value threshold of 10% and the values appear statistically significant. The fifth and sixth equations study the effect of company and deal type to returns. The fifth equation implies that when acquiring a private company opposed to a stock listed entity the returns are greater. Equation six examines whether tender offers create larger returns compared to acquisitions. Both premises find a positive correlation however neither one is statistically significant. The R-squared value fluctuates in the range of 0.20 to 0.27, which can be considered sufficient for an econometric model to be meaningful.

6.3 Summary of results and discussion

The findings in the underlying thesis are supported as well as rejected by existing literature and our hypotheses. The thesis finds that on an aggregate level acquiring companies' abnormal returns do not differ significantly from zero with a slight positive indication of 0.21% in a three day event window. Most of the previous literature supports the notion of positive or zero returns, e.g. Jarrell & Poulsen (1989), Jensen & Ruback (1983) and Dodd & Ruback (1977). On a Nordic perspective Lyyra, (1999), Karppinen (2001) and a more recent study from Hänninen (2014) find the similar pattern. A slight positive return seems intuitive since if the returns would be consistently negative, making acquisitions would be pointless. Although this assertion lies on the premise that investor are able to capture the long term benefits in a three day trading window.

Results for hypotheses two to five give more controversial results compared to previous literature and our original hypotheses. Our regression model finds that SCAR is positively correlated with deals associated with cash and hybrid financing whereas stock financed deals show negative correlation. However, only the study of hybrid financing is statistically significant from the three aforementioned consideration details studied. The regression analysis shows that cross-border transactions create less value than transaction where both the acquirer and the target were based in the same country. Additionally we find that the returns of cross-border acquisitions are negatively correlated. The SCAR of acquisition of a private company, compared to a publicly listed stock company, are positively correlated. Moreover, the same pattern is seen in tender offers. However, both variables were deemed statistically insignificant.

Table 14: Summary of the findings

Hypothesis	Findings
<i>H1: “Acquisitions create positive or close to zero returns on an aggregate level for the sample.”</i>	Our study supports this hypothesis with an aggregate of 0.21% return for the total sample.
<i>H2: “Acquisitions that are financed with cash yield greater returns than do those that are financed with stock on a SCAR basis. The market reaction for acquisitions financed with both cash and stock are expected to have greater returns than those financed solely with stock. Consequently all stock financed acquisitions are expected to generate the least returns.”</i>	The respective hypothesis is partly supported by the findings of this thesis, since stock financed acquisitions indeed create the least returns. However, we find that hybrid financing created highest returns of all studied consideration details. Additionally we find that the samples of cash and stock financed deals are not statistically significant and accept the null hypothesis.
<i>H3: “Cross-border acquisitions yield higher SCAR than acquisitions in which both the acquirer and the target are based in the same country”</i>	Our findings suggest that the notion of cross-border acquisition yielding a higher return, opposed to transaction in which the acquirer and the target are based in the same country, is flawed based on our sample. Cross-border acquisitions generated returns of 0.1% on an aggregate level compared to 0.4% in non-cross-border deals.
<i>H4: “Acquisitions of private firms yield greater returns than those that involve acquiring a publicly listed company for the acquirer. Furthermore we expect that an acquisition of any other type of illiquid asset creates greater returns in comparison to more liquid assets.”</i>	The thesis finds that if the target is a private company, opposed to a publicly listed stock company, the returns are in fact greater than in an event of an acquisition of a publicly listed company. However the deviations in returns are insignificant compared to the total sample thus the results are not statistically significant.
<i>H5: “Tender offers yield lower returns compared to acquisitions or other transactions that are solicited by the executive board.”</i>	Hypothesis 5 is rejected due to weak statistical significance support, which is a result of the uneven distribution of the variable in the sample.

Table 14 summarises the findings against our relevant hypotheses. In hypothesis 2 we suggest that financing the financing decision of a transaction has relevance to abnormal returns. The underlying notion is that the type of financing signals the market partici-

pants various things, such as the valuation of the target, the current state of the company's balance sheet, future expectation of the target, synergies or the management sentiment. The thesis discusses the relevant theoretical frameworks of the aforementioned subjects in sub-chapters 2.5 to 2.6

Form of financing used can be interpreted in several ways; According to Myers & Majluf (1984) if the company is paying for the acquisition with cash it might signal that the acquirers stock is undervalued and on the contrary if the payment is financed with stock it might be a signal of overvaluation. This is a commonly referred phenomenon and could be one of the reasons why this thesis shows a similar pattern i.e. cash financed deals have higher returns than stock financed. Roll (1986), in turn, suggests that when the acquirer places a bid on a target it might suggest that the unannounced cash flows could be higher. Using cash to finance such acquisition would be the logical way to move forward since the current valuation should equal only the information that is publicly available to market participants, as the market efficiency theorem suggests. However, we did not conduct any interviews or did not verify the motives of each deal and thus it is speculation which of these aforementioned reasons would be the most relevant.

Differing views exist related to the financing type; e.g. Eckbo (1990) states that mergers which are financed with cash, do not have the signaling effect, because the value of the target is easily visible and the acquirer does not have as big of a risk in overpaying. However, he does not take into account the notion that a company might be using cash as consideration since it lacks other viable uses for its cash or does not believe that its stock is underpriced and does not want to use stock for acquisition.

Most studies, such as Travlos (1987) and Moeller et al. (2004), find that cash financed acquisitions tend to yield greatest abnormal returns, however this thesis finds hybrid financing might provide to be a better mean of financing. Travlos (1987) and Moeller et al. (2004) find that cash deals yield better results compared to hybrid financed deals, but Eckbo (2000) has a different view that supports greater returns for hybrid deals. As discussed in previous chapters valid arguments to support the findings could be the notion that hybrid financing is reducing the risk of overpaying via the stock component. Another theory could be that hybrid financing is used in the absence of sufficient cash reserves. This means that firms with less cash slack would use hybrid financing and the positive effect of debt burden would reduce managerial hubris and empire building. Moreover, as Seth et al. (2000) and Roll (1986) suggest both kind of management behavior results in bad M&A returns. Jensen (1986) argues that transactions are sometimes used to dispose excess cash. This in turn might indicate that cash financed acquisitions are not as well considered in contrast to acquisitions made in a state of limited cash resources. Even though this thesis did not include interviews or study motives behind each acquisition and hence it is speculation, which reason proved to be the determining factor behind the type of financing used, we can confirm hypothesis two with

some uncertainty on the reasons behind the relation between returns from cash financed deals and hybrid financed deals.

Hypothesis three suggest that cross-border acquisitions create higher returns than acquisitions with the acquirer and the target based in the same country. The hypothesis is based on the previous literature e.g. Danbolt (1966) and Kang (1993), who suggest that cross-border acquisitions create greater returns opposed to non-cross-border. However, contrary views exist to those of Danbolt and Kang's. For example Harris and Ravencraft (1991), Georgen and Renneboog (2004) and Aybar and Ficici (2009) find close to zero returns. Kang (1993) finds that multinational firms tend to have competitive advantage over local ones and therefore argues that cross-border acquisitions create greater returns. Other reason for greater returns argued previously are the volatility of returns due to greater risk in cross-border returns, which in a large sample should even out, but in a smaller sample might skew the results into either positive or negative side. This can be seen by the volatility of results of previous studies. Additionally, as discussed in the theoretical background, entering new markets is a synergy that is seen more realistic to realize than pricing power or other synergies that are present when acquiring a company that is operating in the same market. Even though with high uncertainty, we argue that cross-border mergers yield worse returns compared to non-cross-border mergers in a Nordic context.

Hypotheses four states that acquisitions of a private company opposed to a publicly listed company provide greater returns for the asset. The Hypothesis is based on the notion that illiquidity of an asset entails a discount on the price. Illiquidity discounts are a widely studied area and the academic as well as professional parties utilize different kind of discounts when valuing illiquid assets. Fuller et al. (2002) find that bidder gains when buying a private firm but loses when acquiring a public one. They argue that illiquidity of private companies is one of the reasons for a discount and hence the cumulative abnormal returns for the acquirer in private firm acquisitions are correlated positively with the size of the target. Similar results are found by Chang (1998) who finds that when private firms are acquired with cash, significant positive returns are expected. When the consideration is paid with stock the returns are lower, but positive. Hansen and Lott (1996) find a similar pattern with Fuller (2000); when the bidder is acquiring a private firm bidders experience 2 % higher returns than when acquiring a public one. However Damodaran (2010) argues that assets that are less liquid have historically earned higher returns. i.e. smaller returns for the acquirer.

Illiquidity is caused by several components; trading costs for an asset comprise of brokerage cost, bid-Ask spread, price impact or opportunity costs, or a combination of them. Brokerage cost is the most explicit of the costs that any investor pays, but it is by far the smallest component. Opportunity cost could be argued to be the most relevant since discounts tend to be greater the fewer the bidder pool is. Examples of such phe-

nomenon are multiple with one recent transaction of Kesko's acquisition of Suomen Lähikauppa; Due to dynamics of the respective industry in Finland only few market participants were able to make an offer, which in turn yielded a huge return on the valuation. Additionally smaller publicly listed companies that could be considered illiquid might be undervalued due to constrained analyst coverage resulting in information asymmetry.

Hypothesis five suggests that tender offers or other unsolicited bids create smaller returns compared to bids solicited by the management board. The hypothesis is intuitive due to several reasons. First, in unsolicited bids the acquirer has less information and has to act on publicly available information. Companies usually give out as little bad information as is allowed while remaining in the regulatory framework. Second, bids made directly to the shareholders usually evoke some defensive tactics from the management of the company, hence pushing the bid price up. Third, regulatory requirements require a certain threshold to be reached in order for the acquirer to make a successful acquisition. In other words the bid must be lucrative for a most of the shareholders, even the ones that would rather not sell their shares.

7 CONCLUSIONS

The ambition of this study was to study the effect of corporate acquisition announcements to shareholder value by examining the performance of the underlying share price of acquiring companies listed in NASDAQ's Nordic stock exchanges. Share performance was studied for acquisitions that took place between 2005 and 2010 in order to capture both pre- and post-financial crisis performance. The two main objectives of the study were, first, to examine if M&A transactions create or destroy value and if so, how much and second, to examine the contribution of transaction specific factors to value creation in M&A transactions.

The M&A field has been widely studied since 1970's and vast amount of research has been conducted with different objectives and variables ranging from accounting to behavioral studies. This thesis aimed to shed light to previously studied subjects, but in a Nordic perspective, which has not been as widely studied due to the size of the market and available data. Additionally this study uses a five minute interval, which is significantly shorter interval compared to most studies. The results of this thesis are mainly consistent with evidence from other markets and M&A theoretical background, on which the five hypotheses of this study were grounded on.

The study found that on an aggregate level during a three day event window, the standardized cumulative abnormal return for the acquirer is positive although the magnitude of the return is relatively small. Also the abnormal returns increase rapidly during the first 15 minutes after the announcement, which can be interpreted so that investors do not have previous knowledge of the acquisition, but still react immediately to the acquisition announcement. The first argument supports the premise of low information asymmetry and the latter argument asserts that the markets acts efficiently in a manner that the new information concerning the underlying stock is reflected in the share price during the first 15 minutes of trading after the announcement.

We also find that acquisitions that were financed with stock create lesser returns compared to cash or hybrid consideration with a negative regression co-efficient. The result suggests that, as according to theory, using stock as consideration signals that the acquirers stock might be overvalued. Also, combination of cash and stock was found to yield better performance over cash finance acquisitions. This may indicate that investors believe that using cash as consideration entails financial slack, which in turn signals a possibility of managerial hubris or empire building to be a motive of the transaction.

However, previous literature has controversial findings on the financing decision so further scrutinizing should be done on the motives of the means of payment.

According to previous research cross-border M&A yields greater returns compared to non-cross-border deals, however we find that cross-border transactions provide positive, but smaller returns compared to non-cross border acquisitions. The controversial return might be affected by the volatility of returns and sample size; cross-border transactions entail greater risk and hence greater volatility in returns. In a large sample the volatility should even out, however, it is suggested to further examine the cross-border returns with a larger sample. We also find that acquisitions of private companies yield greater returns compared to acquisitions of listed companies supporting the hypothesis of an illiquidity discount. However, the results are not statistically significant.

Finally, we assess whether tender offers show a correlation between abnormal returns. We find that the correlation is positive and that tender offers yield greater returns compared solicited acquisitions. The result is intuitive due to greater premiums in tender offers due to several factors such as information constraints, regulation and defense tactics. However, again, the results are not statistically significant due to the small amount of unsolicited tender offers, which is natural for the Nordic market where most of the bids are usually solicited.

The underlying thesis has some limitations, including sample size, qualitative aspects of motives behind various variables as well as capturing only the short term performance. The limitations of the study provide potential for further research, which could be aimed to replicate the study with a larger sample and conducting qualitative analyses as a support for the stock performance measures. Such analyses could include mapping the motives of the used consideration type and rationale for expanding operations across borders. Using detailed qualitative analyses could give more insight on the reasons behind the results and give further implications for the results. Additionally an interesting topic for future research would be to conduct an accounting study in conjunction with a shareholder value study, to capture the long-term benefits of transactions.

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APPENDIX 1: LIST OF COMPANIES INCLUDED IN THE SAMPLE

Panostaja Oyj	Oriola-KD A
Kinnevik A	Rapala VMC
Aldata Solutions	Sanoma Oyj
Ericsson A	Pöyry Oyj
ICA Gruppen	Raisio
Atria Oyj A	Readsoft
LBI international	TeliaSonera
Metso Oyj	Alma Media Oyj
Wulff-Yhtiöt Oyj	F-Secure Oyj
Basware Oyj	Tryg
Teleste Oyj	Lundbeck
Lindab International	Terveystalo
Revenio Group Oyj	Vaisala Oyj A
Julius Tallberg kiinteistöt	Biotie Therapies Oyj
Transcom worldwide	Olvi Oyj A
Turvatiimi	Affecto Oyj
Takoma Oyj	A.P. Møller - Mærsk A
G4S plc	Millicom Int. Cellular SDB
Outotec Oyj	Tieto Oyj
Afarak Group	Fortum Oyj
Soprano Oyj	Vacon
Rocla	Dovre Group
Evia Oyj	Stockmann Oyj Abp B
Topsil Semiconductor Materials	Trainers' House Oyj
Aspo Oyj	Technopolis Oyj
Pohjola Pankki	Kaupthing
Rejlers	Citycon Oyj
Bure Equity	A-Com
Perlos	KappAhl
Kemira Oyj	Keops
Ixonos Oyj	TradeDoubler
Securitas B	Etteplan Oyj
Bittium Oyj	Glaston Oyj Abp
Fiskars Oyj Abp	Codan
Ahlstrom Oyj	Invik Co
Oral hammaslääkärit	Componenta Oyj
Kesla A	Nokia Oyj
EVOX Rifa	AstraZeneca
Lemminkäinen Oyj	FLSmidth & Co.
SSH Communications Security	United Int. Enterprises

APPENDIX 2: LIST OF INDICES USED



Nasdaq Helsinki
Nasdaq Stockholm
Nasdaq Copenhagen

APPENDIX 3: DELISTINGS

Company Name	Exchange/Ticker	Key Developments by Type - [1/1/2005-12/31/2010]	Geographic Locations
AB Electrolux (publ) (OMELUX B)	OMELUX B	12/16/2009 (Delistings) Electrolux Applies For Delisting From LSE 9/4/2007 (Delistings) Electrolux To Apply For Deregistration With SEC 3/14/2005 (Delistings) Electrolux To Delist Shares From Nasdaq On March 31 2/15/2005 (Delistings) Electrolux To Delist ADRs From NASDAQ 12/13/2007 (Delistings) Volvo AB Files SEC Form 15 12/3/2007 (Delistings) Volvo Files For Delisting From NASDAQ 6/14/2007 (Delistings) Volvo Applies For Delisting From The NASDAQ Stock Exchange	Sweden (Primary)
AB Volvo (publ) (OMVOLV B)	OMVOLV B	12/13/2007 (Delistings) Volvo Files For Delisting From NASDAQ 6/14/2007 (Delistings) Volvo Applies For Delisting From The NASDAQ Stock Exchange	Sweden (Primary)
Academedia AB (OMACAD)	OMACAD	7/23/2010 (Delistings) Academedia Requests For Delisting Of Shares From NASDAQ OMX Stockholm AB	Sweden (Primary)
Alm. Brand Pantebrev A/S	-	4/28/2010 (Delistings) Academedia Shares To Be Delisted From OMX. Upon The Completion Of Acquisition. 12/07/2010 (Delistings) Alm. Brand Pantebrev To Delist From NASDAQ OMX Copenhagen A/S	Denmark (Primary)
Amer Sports Corp. (HLSEAMEAS)	HLSEAMEAS	06/23/2005 (Delistings) Amer Sports Delisting From London stock Exchange Approved 5/25/2005 (Delistings) Amer To Cancel Secondary Listing In London 4/27/2005 (Delistings) Atlas Copco To Delist From Frankfurt Exchange In July 2/7/2005 (Delistings) Atlas Copco Cancels Secondary Listing At The Frankfurt Stock Exchange	Finland (Primary)
Atlas Copco AB (OMATCO A)	OMATCO A	1/14/2005 (Delistings) Atlas Copco AB To Delist A And B Shares 04/22/2009 (Delistings) International Gold Exploration To Be Delisted 11/04/2010 (Delistings) NASDAQ OMX Stockholm To Delist Borås Wälveri 02/05/2008 (Delistings) CBL Gruppen To Delist From First North 12/27/2005 (Delistings) CBL Moves To Nysa Meritaden 08/12/2008 (Delistings) CashGuard AB Files Application For Delisting Of Its B-share With OMX Nordic Exchange Stockholm 05/27/2005 (Delistings) Chips Ab 11/21/2008 (Delistings) Curlogic A/S 11/21/2008 (Delistings) Curlogic A/S Might Delist From OMX 12/23/2008 (Delistings) D. Carnegie & Co AB (publ) (OMDCAR B) 03/30/2009 (Delistings) Danish Industri Invest A/S 06/03/2010 (Delistings) Dettek Denmark A/S 10/01/2007 (Delistings) Europe Vision Eyes Delisting On AM 05/30/2007 (Delistings) EuroTrust A/S 05/30/2007 (Delistings) EuroTrust To Be Delisted From Nasdaq Global Market 05/30/2007 (Delistings) EuroTrust Announces Intention To Delist From NASDAQ 01/12/2009 (Delistings) Fazer Konfektyr To Delist From SSE 01/24/2005 (Delistings) Finnsveden AB To Delist On February 21 10/22/2008 (Delistings) TGC To Be Listed From MCEX 07/27/2010 (Delistings) A-nagerbanken On Observation List Of Copenhagen Stock Exchange 04/07/2009 (Delistings) IBS AB To Transfer Listing From NASDAQ OMX Small Cap To First North 06/23/2009 (Delistings) Inson Oy 4/28/2008 (Delistings) Inson To Be Delisted 03/29/2010 (Delistings) KapitalPage To Be Delisted From Trading And Official Listing On NASDAQ OMX Copenhagen 03/04/2010 (Delistings) Lendstern AB 09/22/2009 (Delistings) Morphe Technologies Might Get Delisted 12/07/2010 (Delistings) Muntern AB To Be Delisted From NASDAQ OMX Stockholm AB 12/30/2009 (Delistings) NanoCover To Be Delisted 11/02/2007 (Delistings) Nefab AB To Be Delisted From OMX Nordic Exchange Stockholm AB 05/12/2010 (Delistings) Nisonet AB 05/12/2010 (Delistings) Nisonet AB Announces Delisting From NASDAQ OMX Stockholm AB 02/20/2009 (Delistings) Neonode's Stock To Be Delisted On January 2 1/5/2009 (Delistings) Neonode Receives Notice From NASDAQ 12/15/2008 (Delistings) Neonode Receives NASDAQ Non-Compliance Letter 7/16/2008 (Delistings) Neonode Nasdaq Received Letter From NASDAQ 7/22/2008 (Delistings) Neonode Got A Staff Determination Letter From NASDAQ 01/25/2007 (Delistings) Nokia Applies For Delisting From Stockholm Stock Exchange 02/02/2005 (Delistings) Norden Bank AB (publ) (OMNDA SEB) 04/12/2005 (Delistings) Norden To Delist Euro-denominated Share From Stockholm Stock Exchange 04/12/2005 (Delistings) North Atlantic Natural Resources AB 05/18/2010 (Delistings) NANA Shares To Delist On April 29 01/23/2010 (Delistings) Oicom To Delist From NASDAQ OMX Copenhagen 11/23/2010 (Delistings) PA Resources Approves To Apply For Delisting Of Shares From OSE 11/8/2010 (Delistings) PA Resources Proposes To Apply For Delisting From OSE 06/03/2005 (Delistings) Potagua B-shares To Delist With Effect From June 6 4/27/2005 (Delistings) Potagua To Delist B-shares From Copenhagen Stock Exchange 02/23/2006 (Delistings) Copenhagen Bourse Delists Potagua Kapital From Feb 24 12/26/2007 (Delistings) Q-Med AB 05/11/2006 (Delistings) QMed Not In Compliance With NASDAQ Rule 05/11/2006 (Delistings) Spar Finland Ltd. 09/02/2009 (Delistings) Nexus Applies To Delist From NASDAQ OMX 03/21/2005 (Delistings) Tel2 To Delist From Nasdaq 04/18/2010 (Delistings) Ticket Travel Group AB (publ) 05/03/2010 (Delistings) Tricorona AB 05/03/2010 (Delistings) Tricorona AB Announces Delisting From NASDAQ OMX Stockholm AB 06/23/2005 (Delistings) TV4 AB To Delist Stockholm Stock Exchange 5/24/2005 (Delistings) TV4 AB May Delist From Stockholm Exchange 06/19/2008 (Delistings) Versure Holding AB Securus Direct To Be Delisted	Sweden (Primary)